The Developmental Impact of International Medical Service Trips on PreMedical Students

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Abstract

Undergraduate premedical students are increasingly traveling to developing nations as a way to combine an interest in service, travel, and career exploration. The purpose of this interpretative phenomenological analysis is to understand the developmental and admissions impact of international medical service trips on the students who participate. Eight medical students participated in a semi-structured interview that asked them to reflect on an international medical service experience from their college career. Arthur Chickering’s student development theory served as a theoretical framework for understanding student development. This study found that students chose to participate due to a combined interest in travel and learning about the field of medicine. Participants described shadowing, spending time with patients on the wards and research as their main activities. They related increases in maturity, self-confidence, self-reliance, and changes in point-of-view. Global perspective was impacted as participants developed relationships with people in their host country. Seeing poverty and lack of access to healthcare gave an appreciation of privilege. Trips played prominently on medical school applications and were discussed in interviews. Higher education professionals who work with premedical students can have a positive impact on their development and careers by advising them of ways to engage in trips with an ethical and learning mindset.

Keywords: international medical service, medical school admission, student development theory, interpretive phenomenological analysis, ethics, study abroad
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There's only a very few things that I think really steered me the direction I chose, and my trip is up there. It was that experience that made me want to do medicine. It gave me some of my best friends. It taught me a lot about the world and about people in general… I got lucky in that I was surrounded by such good-hearted and inspiring people and that made me want to continue to be within the medical community. Being abroad, it was cool to see how medicine is this universal tool. I loved the idea of being able to go anywhere in the world and provide a service to others, based on the knowledge I've learned.

- Jennifer, second year MD/PhD student

Chapter 1: Introduction

Jennifer booked her flight for South Africa with high hopes. She had never traveled on her own before, never been to a developing nation, never shadowed a physician, never worked in a hospital, and wasn’t sure of the direction she wanted to take her life. Jennifer is academically curious, a strong student, with a wide range of interests. The daughter of a researcher, she always planned to have a career that allowed her to solve scientific puzzles. Outgoing and caring, Jennifer believed she had the skill set to be a capable doctor, but she hadn’t yet had an opportunity to test if working in the medical community would be the right fit. Spending five months volunteering and shadowing a pediatric neurosurgeon at a government pediatric hospital in Cape Town seemed like a perfect way to immerse herself in medicine, while at the same time taking a first international trip on her own.

Jennifer’s exploration of medicine in South Africa is a part of a growing trend among undergraduate premedical students; traveling to a developing country, volunteering in medically
related capacity, while at the same time experiencing another culture. Ensuring that medicine is the right fit is critical for young people; in 2017, the average debt load of a medical school graduate was $190,694 (Fresne, Youngclaus, Shick, & Banez, 2017). Medical training is long; in addition to four years of medical school, it encompasses at least three years of residency frequently followed by a year or more of fellowship. As the cost of becoming a doctor rises, the importance of thorough career exploration increases.

Colleges are responding to customer demand for increased practicality from an education. However, bright and talented students aren’t ready to give up traditional learning experiences to make study solely a vocational endeavor (Field, 2018). Students like Jennifer are interested in learning more about the world and themselves through experiences such as study abroad and service learning. For premedical students who must complete a rigid series of science prerequisite courses, traditional study abroad programs have historically been inaccessible. For these students, taking part in an immersive international experience requires thinking outside of traditionally defined options. One increasing solution is participation in an international medical service trip. To date, researchers have examined many aspects of global experience on student development, however knowledge of the impact of international medical service trips on participants is lacking.

**Statement of the Problem**

This study seeks to understand how international medical service trips impact the students who participate. Specifically, the study examines student development, exploration of the field of medicine, development of a global perspective, and the impact on subsequent admission to medical school. The goal is to inform premedical students who are considering participating in an international medical service trip, their advisors, and campus representatives
who assist with trip planning, so that students who choose to take part in a trip can serve in an ethical manner, while learning from their experience. Data for this study were gathered though a series of semi-structured interviews with seven current medical students and one recent medical school graduate who participated in two-month to five-month international medical service trips as a part of their undergraduate study.

This chapter begins by defining international medical service and introducing the ethical issues of programs. It then shares the context of the problem to be researched. The significance and rationale for completing the study are next detailed. Research questions for the study are given. Finally, the author’s positionality and the study’s theoretical framework are detailed.

**International Medical Service Defined**

For the purposes of this study, international medical service trips are defined as experiences abroad that allow undergraduate premedical students to combine travel to a developing nation with immersive volunteering in a hospital, clinic, or non-governmental organization (NGO) (Wallace., 2012). Students participating in these programs typically pay a fee to shadow physicians, observe in surgeries, assist in public health initiatives, and help with clinical research projects. They also volunteer in areas that bring them in direct contact with patients, without giving skilled clinical care. For example, they might provide comfort to a patient who is alone, play with children who are hospitalized for an extended period, or help organize traffic flow in a clinic (Withers, Browner, & Aghaloo, 2013). Volunteers pay anywhere from $1000 a week up for the opportunity to participate and don’t need any experience or skill; rather they are there for mentoring and learning. Students are housed either in homestays with families or in dormitories with other participants. Language courses are frequently included in the programs ("Child Family Health International," 2017).
Students bring with them enthusiasm for helping others, an interest in learning about public health issues, and a passion to serve. They are free labor for the medical facilities and a source for either direct financial assistance in program fees, or indirect gains in the form of donated equipment, supplies, and materials. International medical service trips are meant to be educational and intercultural experiences rather than an opportunity to engage in skilled clinical care. By volunteering with this mindset, students can frame their activities based on interpersonal interaction, acquisition of a language, mutual exchange of knowledge, and increased understanding of public health needs in a global context. (McCall & Iltis, 2014).

**Ethical Considerations**

While pre-medical students typically travel to resource-poor locations with altruistic motivation and a genuine interest in impacting health, they are not yet trained professionals. It is essential that undergraduates understand their role at departure and are prepared to limit their activities to their level of training (McCall & Iltis, 2014). Researcher describe incidents where undergraduates gave inappropriate care such as performing lumbar punctures, delivering babies, writing prescriptions, taking patient histories when they don’t speak the local language, scrubbing in and participating during surgeries, and giving injections to day-old infants. These actions are harmful to both patient and student. Patients in developing countries are deserving of the same standard of care as those in wealthy nations. Students who step outside the scope of their abilities raise ethical concerns for admissions committees, jeopardizing their acceptance to medical school (Evert, Todd, & Zitek, 2015).

Students may have to be their own advocates for ensuring that they participate ethically (Todd & Prasad, 2015). Local health care practitioners may be unaware of the student’s lack of skill; most countries have a different educational system where students go directly from high
school to medical school (Fischer, 2013). Students may be asked to assist in ways that are not appropriate, and may either believe that anything they can do is better than nothing, or may assist because they don’t know how to say no. Language and cultural barriers add complexity to an already unfamiliar setting for young people, making it difficult to discern the best action in a fast-moving, high need medical setting (McCall & Iltis, 2014).

Wealthy, mostly white, college students traveling to poor, typically African, Asian or Latino nations with the idea that they can provide essential services to those in need creates uncomfortable power differentials. American students must be aware of their status and privilege in any developing nation, remaining vigilant in their efforts to cultivate an attitude of humility and mutual respect. Confidentiality requirements in the developing world remain the same as in the US. Participants should consider carefully how they depict their host country in photographs, and should never take pictures of patients (Chapman, 2016).

Medical ethics must be at the forefront of all work done via an international medical service trip. Participants must travel with an understanding that “if [you] are not allowed to do it in the United States, [you] should not do it there” (Todd & Prasad, 2015, p. 62). Volunteers should carefully choose a program that focuses on the needs of not only the student, but also the host country, emphasizing mutuality in relationships and benefits, and long-term outcomes for both student and host community (Melby et al., 2016). Without the recognition that it’s a privilege to be able to travel and serve, students cannot hope to achieve the maximum benefits from their experience, and may leave their trip having done harm instead of good.

**Significance and Rationale**

In 2014, international medical service trips were a $250 million-dollar industry. Over 500 organizations coordinated programs with a wide variety of participants, goals, durations and
patient populations. In that year, 29% of medical school graduates and 36% of students matriculating into United States medical schools had participated in some type of global medical program (Stone & Olson, 2016). International medical service travel is a trend that is growing, yet there is minimal research that shows how trips impact participants. Insight from current medical students will help undergraduates who are considering participation to decide if this type of experience is a good fit. It will also assist schools, advisors and premed students in understanding best practices for volunteering in a global setting, and how trips can help prepare undergraduates to become physicians.

In any medical work, the patient must be at the forefront of consideration. Research studies have looked at the ethics of these trips and found that programs vary in quality and consideration of ethical implications (Chapman, 2016)(Melby et al., 2016)(McCall & Iltis, 2014)(Evert et al., 2015). Identifying ways that successful medical students participated in service trips informs current premedical students of ethical guidelines. Current undergraduates may be naïve regarding appropriate practice, and approach trips as an opportunity to gain clinical experience that they could not gain in the United States. By detailing the experiences and insights of successful medical students, the study aims to place trips into an appropriate framework, serving as a part of pre-departure preparation.

Acceptance rates into United States medical schools hover in the low fortieth percentiles (Association of American Medical Colleges, 2016b). Schools accept candidates based on a variety of competencies, including a set of academic, interpersonal and intrapersonal characteristics (Witzburg, R. A., Sondheimer, 2013). When trips are undertaken as a part of an undergraduate’s preparation to apply to medical school, it is important to understand the potential impact on admission to medical school.
Context of the Problem

We live in an increasingly global society, with technology that enables us to easily connect both physically and virtually with people from around the globe. Developing a global perspective is an increasingly important aspect of a college education. Interdependence among nations and in scientific communities is a growing component of young people’s experience. Professional careers commonly consist of work across national borders. To be successful in today’s market, professionals must be able to work with a diverse range of people from a variety of cultures, backgrounds, and heritages (Bourn, 2008). Extracurricular activities that connect students with people who are different from them facilitates growth, enabling college graduates to be more adept in global engagement with an opened mindset (Braskamp, L. A., Engberg, 2011).

International travel during college exposes students to new cultures, increases awareness of world affairs, and develops open mindedness to different lifestyles, religions, beliefs and ideas. It allows long-term immersion in another culture, with opportunities to connect with people who have different perspectives (Carlson, Burn, Useem, & Yachimowicz, 1991). Undergraduates who travel abroad develop characteristics of resilience including confidence in their abilities to be independent, make their own decisions in novel situations, and solve problems that arise in daily life (Hadis, 2005). Connection with people from different countries develops a global perspective (Hayward M. & Charrette L., 2012). The greater the difference between country of origin and international travel destination, the larger the impact on the participant’s development of a global perspective (Douglas & Jones-Rikkers, 2001).

For future health care providers, attaining a global perspective, with an appreciation for other cultures, is essential. Physicians care for patients from a wide range of backgrounds -
geographically, culturally, racially and economically. As the world becomes smaller and our society more global, doctors need to have a greater understanding of the impact of culture on health behavior (Saha, Guiton, Wimmers, & Wilkerson, 2015). In the United States today, the majority of children born are from “minority” backgrounds. By 2020 elementary schools in the US will have more “minority” students than white (Yoshinaga, 2016). Projections of the US Census estimate that the entire US will be majority-minority by 2043 (“Majority minority,” n.d.).

When sociocultural differences impact the doctor-patient relationship, patient outcomes are compromised. An understanding of different perspectives on the part of physicians improves communication, which in turn leads to higher patient satisfaction, better adherence to treatment plans, and improvements in health (Betancourt, Corbett, & Bondaryk, 2014).

**The Importance of Community Service**

Community service experiences take students out of the ivy tower of higher education and allow them to work with diverse groups. These experiences enable students to get to know people from a wide variety of backgrounds and points of view (Bruess & Peterson, 2000).

Participation in community service has been found to have a positive correlation with improvements in self-esteem, moral development, interest in education, cultural sensitivity, and belief in one’s ability to make a difference (Celio, Durlak, & Dymnicki, 2011). For medical students, it has been found to combat the lack of empathy that encroaches during the pre-clinical years of education (Allen, 2011). Less expected perhaps, service also creates discomfort, doubt, and confusion, the very things necessary for cognitive dissonance and its resulting growth (Bringle & Hatcher, 1999).

Altruism and humanistic care of patients are a cornerstone of quality medical practice. Community service fosters these characteristics. Service is habit that, once developed, tends to
continue in the future (A. W. Astin & Sax, 1998). Studies have found that medical students who are more involved with community service have higher grade point averages and score better on their medical school licensure exams. They also tend to be rated higher in performance by their residency directors (Blue, Geesey, Sheridan, & Jr, 2006). International medical service is a commitment of time and money to caring for some of the world’s poorest. By taking intentional steps to prioritize service on a full-time basis, students make a commitment to caring for others as a part of their academic aspirations. This intentional commitment prioritization to service over other aspects of their application may influence the values that they prioritize as a medical student and practicing physician.

**Challenging Privilege**

In 2017, almost half of all entering medical students came from wealthy families, with parents whose incomes placed them in the top quintile for US household income. In the same year, less than 30% came from families in the bottom three quintiles, with only 5.5% of matriculants coming from families in the lowest income quintile (AAMC, 2018). At the same time, studies find that health is tied to income, with socioeconomic factors linked to lifespan (Lynch et al., 1998), health status (Adler, Glymour, & Fielding, 2016), access to primary and well-care, healthy food, safe exercise space, and likelihood of smoking (Chetty et al., 2016). International trips serving patients in developing nations can bridge the gap in understanding healthcare disparities and poverty.

Medical students returning from global service trips report discomfort with the power dynamic based on their status as an American. Students found that they received privileges in the clinic based on their wealth and skin color. At the same time, for many students being a member of the minority for the first time creates uncomfortable feelings, leading to a greater
understanding of racial tensions in the United States (Abedini, Gruppen, Kolars, & Kumagai, 2012). Medical students report increased interest in working to help patients with the greatest need, and greater understanding the influence of lack of resources, clean water and nutritious food on health. Students note that connecting with patients who live in dire poverty impacts their understanding of public health needs and makes them more empathetic towards the poor (Ramsey, Haq, Craig, & Rothenberg, 2004).

**Physician Shortage**

The world is facing a shortage of physicians, both in poor and wealthy countries. The Association of American Medical Colleges (AAMC) projects that by 2030 the United States will need between 40,800 and 104,900 additional doctors to adequately care for our population (Association of American Medical Colleges, 2017). The situation in developing nations is even more critical. Twenty six countries in sub-Saharan Africa have one or no medical schools, limiting the number of doctors that can be trained (Frenk et al., 2010). In 2016, 5.6 million children below the age of five died, the majority from infections, complications of birth, and inadequate nutrition. These deaths were unevenly distributed, with the highest burden in Africa, Southeast Asia, and the Eastern Mediterranean (World Health Organization, 2017).

The greatest impact from the lack of doctors will be on the world’s most vulnerable who cannot afford to pay for insurance or health care. These patients frequently rely on the generosity of physicians and other professionals for low cost or free treatment. Even in the relatively wealthy United States access to health is unevenly distributed, with resulting impacts in the health of Americans. Medical schools are not producing enough primary physicians, particularly physicians in family medicine. These doctors, rather than specialists, are the most likely to care for underserved populations (Stark, 2013). Lack of primary care leads to chronic illness and the
progression of mild disease to serious illness. In 2003, the life expectancy for white Americans was five years longer than African Americans at birth, infant mortality was two times greater for African American mother’s than white mother’s, and African Americans were more likely to die of cancer than other ethnicities, (Mead et al., 2008). For these statistics to change, physicians need to lead the charge. This change may occur at a financial cost to doctors, requiring commitment from the physicians for sustainability.

**Research Questions**

This study asks medical students to reflect upon their international medical service trips that they took when they were undergraduate students and to consider the impact of these experiences. The lapse of time and experience between activity and reflection serves to allow the medical students to process and integrate learning gained from their trips into their lives. Understanding medical student perceptions of their prior experiences enhances insight into how international medical service may have facilitated admission to medical school and directed the course of their medical careers. The two central research questions of this study are:

1. How do international medical service trips impact the identity development of premedical students?
2. How do participants feel trips prepare them to be successful applicants to medical school?

**Positionality Statement**

Integrating into the global community has been a passion of mine since college. I grew up in the suburbs of Schenectady, New York. At the time I lived there, Schenectady was very much a company town, with General Electric (GE) being the major employer. My father was an engineer for GE, my mother was a stay-at-home mom, we were comfortably off financially, and
my brother and I went to the best public school in the area. The vast majority of kids in my school were also white, upper-middle class children of professionals. Schenectady was not the most exciting place to grow up, but looking back I would describe it as “idyllic.” When it came time for me to choose a college, I knew I wanted to go to a small liberal arts school in a college town because I felt that would be the environment where I would learn best. I also wanted to be able to study abroad. I knew that there was much more to the world than Schenectady, and I wanted to begin experience it. I attended Kalamazoo College in Michigan because 92% of students studied abroad; it wasn’t necessary to be a language major, even in the 1980’s. I spent four months studying in Madrid and another two months traveling around Europe with an Eurail Pass. For me, this experience was transformative.

My goal in going to Madrid was to see more of the world, improve my language skills, make new friends, and have some good adventures. Following the interests of many college students, I also wanted to meet handsome Spanish men and be able to drink while I was under 21. While these goals were achieved, other salient lessons became more important. For example, I was able to bring two suitcases for my six months in Spain, and when I traveled for the last two months I only had a backpack. Everything I owned fit into a small space, and I realized that I didn’t need more. My friends and I had very little money, and entertainment revolved around things we could do at low cost or for free. We had a great time! Being in Spain made me realize that stuff wasn’t as important as experience, and pursuing a career for money wouldn’t make me happy. To this day, I live my life simply, and splurge on experiences over things.

Walking around the cities in Spain I was at first surprised to see men standing around with machine guns. In Schenectady, and even when I visited New York City, there was never a need for ostentatious security. In Spain at the time, though, a terrorist group call the Euskadi Ta
Askatasuna (ETA) was still active in Madrid. In class, we learned about the ETA and why the Basque wanted to separate from Spain and France. It was my first up close experience with complex politics and terrorism. I grew up taking my safety and security for granted. Walking around the city I realized that not everyone has this same luxury, and understood how lucky I was to be from a place where I was so safe.

Parts of foreign study were a glorious adventure. I celebrated New Year’s in Trafalgar Square in London. I rode a moped around the island of Corfu. I met a man on the side of a mountain in Nice, and invited him to travel with us for the next three weeks. I fed monkeys on Gibraltar. I gambled in Monaco. I went to a bull fight. I visited the Eiffel Tower, Vatican, Acropolis, Tower of London, Louvre, and Prado. My friends and I wandered the streets of glamorous cities by day and slept on trains at night, stumbling off in the early mornings to drink coffee in Italian Cafes. We squandered our time, spending hours in a sweater shop, missing out on the original Olympic theater in Greece. We met so many people, and tried to communicate through gestures and phrases in our guide book.

Parts of my trip were a struggle that I would never have expected. My host mother spent the money we paid on theater tickets and fed us potatoes and bread. There was no heat in the winter, and I learned to alternate days washing my hair and body in the cold. I couldn’t understand half of my classes in Spanish, and for the first time in my life I was afraid I would fail in school. Bold men groped at me on the subway, bars, and just walking down the street. I ran out of money, and had to live off my friends good will, eating their free tapas that came with beer. And yet, even these hardships had a charm, a thrill of overcoming and achieving something difficult. I’d never seen myself as an adventurous person, and many of these experiences pushed
me out of my comfort zone. To my surprise, I loved the tough parts, and realized that I should continue to pursue things that made me uncomfortable.

I credit my study abroad experiences with encouraging me to pursue challenges that I have explored throughout my life. Living in Madrid was the first time that I lived in the city, and I discovered that I love urban life-style. I got to know people from a different background, and came to see that we have surface and cultural differences, but we are all just people in the end. I also became comfortable relying upon myself in countries where I didn’t speak the language, didn’t know anyone, and had very little money. Study abroad helped me to stretch my boundaries and to become a more independent, confident person.

Since college, I have traveled to countries that are culturally and economically different from the US including Venezuela, Peru, Tanzania, Israel and Mexico. My adventures are motivated by an interest in seeing places that are completely unlike anything I’ve seen before. Because I try to choose vacation locations that are going to be new to me, I find myself feeling anxiety before each trip. I inevitably return home having fallen in love with a new country and wondering why I would have been nervous. I believe that travel should push comfort zones and help open minds to new ideas.

My personal bias is that, whenever possible, young people should see the world through a short or long-term global experience. Research supports the benefits of travel abroad for personal, academic and civic development (Hadis, 2005). In his book Education and Identity, Arthur Chickering detailed that the college years are a time when young people are discovering who they are, including developing their own identity, separate from their family of origin. These years are also a time for developing purpose and integrity (A. Chickering, n.d.). By engaging in an experience that will expand their horizons at an impressionable time in their lives,
I believe that premedical students will be able to develop an informed world view that will have a positive impact on their patients when they become practicing physicians.

**Theoretical Framework**

Arthur Chickering’s college student development theory revolves around the central idea that attending college accelerates development in a unique and powerful way. Though individuals have many times during the course of their lives where they will grow and change, going to college is the first time that most will be exposed to a group of people different from themselves, away from their family. Given the age of the traditional college student, this may have a major impact on the course of an individual’s life (Garfield & Jack, Laurence, 1986). Chickering offers a framework of student development that describes seven vectors, or tasks, of identity development that are impacted by the college experience. Although these vectors have a sequential nature, Chickering’s theory is not a stage theory; he notes that development may occur in more than one vector at a given time and that growth may happen in different orders for different people. The seven vectors that he describes all have the potential to be impacted by international medical service experience, (A. W. Chickering & Reisser, 1993).

Chickering’s first vector is developing competence. In Chickering’s theory, competence includes three separate facets; intellectual, physical and interpersonal. Lectures and discussions in the classroom are clearly a substantive part of intellectual development. In addition, Chickering discussed the development of cognitive skills such as analytical thinking, problem solving, analysis of information, and increased objectivity about new ideas. While increased knowledge of facts is important, it is the growth of active, engaged, curious learning that enables the higher reasoning necessary for medicine. Likewise, development of interpersonal competence is essential for a future doctor. The art of communication and empathy are partially
developed in the classroom, but extracurricular activities frequently contribute substantially to their development (A. W. Chickering & Reisser, 1993).

Adolescence is a time of emotional turmoil. The combination of hormonal development and new independence makes the college years a time of emotional exploration. Learning how to manage emotions is the second of Chickering’s vectors. Students come from a wide variety of backgrounds, with different ways of relating. Living closely together with peers, joining in classroom debate, and engaging in new situations that challenge expectations enables the development of new skills in managing emotions. Development of appropriate methods of expression, balance and integration is necessary for anyone who hopes to work in a field that involves life and death on a daily basis (A. W. Chickering & Reisser, 1993)

Self-sufficiency and independent problem solving abilities are central in Chickering’s third vector, moving through autonomy toward interdependence. These skills are particularly critical for leaders in health care. Physicians represent the highest-level decision makers in medicine, and must be able to make major decisions on a daily basis. They must also be able to lead and work with a diverse team. While academics certainly shape problem solving abilities, global experience has been found to be transformative in enabling students to develop self confidence in their decision making abilities, communication skills with people who are different from them, and ability to handle complex living situations without someone present to support them (Braskamp, L. A., Engberg, 2011).

Studies have found that men and women develop mature interpersonal relationships at different rates; for example, many women enter college with higher rates of tolerance than men exhibit upon leaving college. Chickering’s fourth vector is developing mature interpersonal relationships, which includes tolerating differences and holding a capacity for intimacy. For
physicians who work with a wide range of people in their most vulnerable moments, maturity is critical for successful practice. Enabling students, particularly men, to have increased access to role models may increase ability to develop mature interpersonal relationships (Foubert, Nixon, Sisson, & Barnes, 2005). Spending time with physicians who serve in areas of high need facilitates an understanding of difference, and development of relationships with diverse individuals.

Chickering’s fifth vector describes becoming a stable, secure individual who has a strong sense of self and personal identity. Establishing identity includes more than just comfort with external appearances. Sexual orientation, cultural context, and life-style choices are explored during the college years. College students are consistently asking themselves “who are my people?” (A. W. Chickering & Reisser, 1993, p. 182). By expanding horizons and meeting people from a wide variety of places, students can expand their definition of “my people” during a time of identity growth. International service allows young people to meet others in a time of vulnerability, and see that they still have many of the same characteristics.

Development on the first five vectors outlined by Chickering leads the individual to better sense of self. The sixth vector, developing purpose, is the channel for that identity moving forward. As college students progress through their studies, they gain a sense of who they want to become in the future, based on their identity, goals, and relationship expectations (A. W. Chickering & Reisser, 1993). For students who are considering becoming a doctor, this development of identity requires sincere commitment to the sacrifices necessary for study. Persistence and diligence to rise to the challenges that will present in application, study for, and practice of medicine are developed. In the face of difficulty, it’s important to have a tangible
goal and reason for continuing forward. Experience in a health setting provides that push for many aspiring physicians.

Chickering’s final vector, developing integrity, describes how students will move forward. A strong moral compass is one of the most critical characteristics for a physician, and one that it is difficult to teach in the high intensity environment of medical school. Physicians must be able to make fast decisions in gray areas, take responsibility for their own actions, and own up to errors that will hurt patients (Lambe & Bristow, 2010). Physicians who take even small short cuts can be dangerous to patient safety and may wind up before discipline boards. It’s the habits of ethical behavior that are developed throughout life that enable a practicing physician to consistently practice with the integrity necessary to deserve the trust given by patients (Papadakis MA, Hodgson CS, Teherani A, & Kohatsu ND, 2004).
I went abroad alone in health care at a very moldable time in life. I was, how old was I? 20, 21, 19? I don't know, but somewhere in those formative years. To go abroad and have that experience by myself I think had a huge impact on my development, my interest, and my understanding of the world. How much of that carried into my specific decisions about career and stuff like that, I don't know. But I think it had a huge impact on who I became and what I found important.

- Finn, fourth year medical student.

Chapter 2: Literature Review

Finn had never left the United States before a mentor encouraged him to “learn about how medicine is practiced in different places” and “build a better sense of self in medicine” by participating in an international medical service trip. No one in Finn’s family was a doctor, he chose the career based on his love of science and interpersonal interaction. Learning about other cultures seemed like a good idea, and Finn thought he would enjoy traveling to a country where he could improve his Spanish. Finn took his mentor’s advice and “went with it,” traveling to Peru and Bolivia for three months. Like many premed students, Finn initially though the objective of his trip was to gain clinical experience and learn about health care. Reflecting back, his understanding of the main outcomes of his trip has evolved.

College students like Finn are at an impressionable point in their lives. Experiences impact who they become as people, beyond task focused learning. Researchers have long explored how undergraduate activities direct student development, change of world view, and success in future endeavors. The following literature review looks at major theoretical approaches to student development, exploring different angles of research.
**Student Development Theory**

The college years are a time of growth for young people. During this time, students are transitioning from relying on what they have learned from their upbringing and family of origin to making their own meaning. College exposes young people to new ideas, people who are different from them, and different ways of viewing the world. These experiences challenge perceptions, creating an environment that helps to expand horizons. Not all students find experiences that challenge them, though. Unfortunately, many college students manage to graduate without experiencing great shifts in points of view or undergoing much developmental change. Though they may have learned facts in the classroom, their ways of making meaning, exploring knowledge, and relating complex theories have not changed dramatically during their college experience (Taylor, 2008).

Greater engagement and participation in roles that demand higher levels of critical thinking and autonomous reasoning facilitate growth. Roles that challenge student’s current perceptions of the world lead to the greatest development. These roles can be encountered in academics, employment, social experiences, relationships, or volunteer work (Barber, King, & Baxter Magolda, 2013). Experiences on global service trips allow students the opportunity to meet and live with people from other cultures, seeing an entirely different way of life (McCall & Iltis, 2014). The experiences of travel abroad can have a profound developmental impact on college students, leading to personal and professional growth. Reverse culture shock on return to the United States can also lead to developmental gains, such as enhanced open mindedness (Hadis, 2005).

This study utilizes Arthur Chickering’s psychosocial development theory as a theoretical framework based on its emphasis on the college years. Chickering deliberately focused on the
growth that occurs based on college attendance, with attention to multiple areas of the individual including competence, emotional development, independence, relationships, identity development, development of purpose and integrity. While Chickering’s theory is central to the study, a holistic perspective of student development demands understanding and integration of additional student development theorists.

Following is an exploration of a range of theoretical approaches to college student development. Person-environment interaction theories center on how the environment of the student impacts development. Psychosocial theories describe a set of stages that students must pass through and master before continuing to the next. Cognitive theories focus on the individual’s thinking processes and ways of making meaning (A. W. Chickering & Reisser, 1993).

**Person-Environment**

Person-environment theories center on interaction between individual and their surroundings, including the people, location, activities, and learning opportunities. Central to this theory is that different people may have the same experiences, but take away completely different learning. Because of this, students can grow in completely different directions during the course of similar college careers. Person-environment theories may focus on the individual, the environment, or the interaction between the two aspects. Person environment theories are important in analyzing student development because they remind the researcher that each individual will have a unique response to the same situation, that environmental impacts can’t be generalized to all people in the same way (A. W. Chickering & Reisser, 1993).

**Astin.** Alexander Astin felt that growth in any given area came about based on the amount of time that a student invested in it. In his Student Involvement Theory, Astin
hypothesized that for an activity to have meaning for an individual they must invest time and energy into it. Astin felt that the more time college students invested into their education the more they took away from it. Astin didn’t think that thoughts had no relevance, on the contrary he believed that motivation for action was important in the end result (A. Astin, 1999). Astin’s research found that students had to be willing and engaged participants in their activities, that forced activities didn’t lead to the same growth as those that a student chose on their own (A. W. Astin & Sax, 1998).

**Psychosocial Theory**

Psychosocial theory identifies stages of development that are organized in a sequential, or semi-sequential, manner. As an individual grows, they tackle more multifaceted and abstract stages that build off previous learning. Each new phase of development involves a qualitatively different task to master, and shifts development in complex new ways. In considering student development, it’s important to keep the perspective of psychosocial theorists in mind, as stage theories help the researcher to have a framework of major developmental hurdles with which the participant will be engaging, framing interactions and results. While each individual is unique, psychosocial theorists give guidance regarding general timelines and their corresponding developmental tasks (A. W. Chickering & Reisser, 1993).

**Chickering.** Arthur Chickering is the most recognized psychosocial theorist to detail college specific development. Chickering described seven stages, which he called vectors. These vectors are developing competence, managing emotions, moving through autonomy towards interdependence, developing mature interpersonal relationships, establishing identity, developing purpose, and developing integrity (Chickering & Reisser, 1993, p. 45-51). Chickering’s theory was initially derived through research with a homogeneous group of white men. Later research
prompted change, allowing that some students may approach vectors in very different orders and paces. For example, some women start college with very strong skills in developing mature relationships, they may be stronger than men’s skills in relationships at graduation (Foubert et al., 2005).

**Erikson.** Erik Erikson’s Lifespan Theory follows development from birth to old age, defining milestones and benchmarks that are met across the lifespan. Erikson felt that difficulty in any one of these stages inhibited development in the next. The Lifespan Theory was groundbreaking in contending that development didn’t stop at the onset of adulthood, rather it continued through old age. Erikson categorized eight developmental stages, trust versus mistrust, autonomy versus doubt, initiative versus guilt, industry versus inferiority, identity versus role diffusion, intimacy versus isolation, generativity versus stagnation, and integrity versus despair. College students have normally faced the first four challenges, and typically find themselves seeking industry, that is a role within society, as well as intimacy in relationships with others. Success in these areas leads to taking on productive vocational roles as an adult in addition to satisfying and mutual relationships (Guinee, 1998).

**Super.** Donald Super’s Life-Span Life-Space theory looks at career development throughout the lifespan. Super felt that experience impacts self-concept, which then shapes career choice. Because we never stop having experiences, career development is a life-long process. Super defined five stages of career development: growth, exploration, establishment, maintenance and decline. College students are typically in the exploration phase, trying different potential options for careers to see what will be a good fit (New Zealand Careers, 2012). Super felt that development could be guided through exposure to opportunities and exploration into
career paths. He was one of the first theorists to put words to the phases of career development, outlining how we make choices in our life’s work (Super, 1953).

**Cognitive Theory**

Cognitive development theories look at the way people take in new information and fit it into their existing understanding of their world. Under normal circumstances, perspectives will gradually reshape and grow. However, people have moments when they are unable to incorporate an experience into a current framework, and thus will experience a major shift in thinking. It’s important to pay attention to the ideas expressed by cognitive theorists because they define ways that individuals make meaning of their experiences. Cognitive theories help provide insight into the level of information that an individual can process in their current developmental framework without being overwhelming (A. W. Chickering & Reisser, 1993).

**Perry.** William Perry theorized that students understand and make meaning of their world through different frames of reference as they grow. He categorized four major positions of development which he called “dualism, multiplicity, relativism, and commitment in relativism” (Love & Guthrie, 1999, p.8). In dualism, students see the world through a perspective of black and white, with few shades of grey. Authorities have the answers to questions. As these students reach the stage of multiplicity, they become more comfortable with some uncertainty, and yet they still believe that one truth exists. Relativism occurs as students start to see that there isn’t one truth, that authorities themselves don’t have all the answers, and that they must be responsible for deciding on their own truths. The transition to relativism is the greatest shift for students, one that typically requires large scale changes in thought. Finally, in commitment in relativism, uncertainty is expected, even celebrated (Love & Guthrie, 1999).
King and Kitchner. King and Kitchner’s Reflective Judgement Model outlines seven stages, grouped into three levels, in reflective thinking that occur between adolescence and adulthood. The levels are pre-reflective thinking, quasi-reflective thinking and reflective thinking. With each stage, the individual becomes more able to understand and integrate complexity and uncertainty into their understanding of knowledge. In the pre-reflective stages of thinking, individuals look to authority figures for the one “right” answer to questions, believing that there is a truth out there. In the quasi-reflective stages of thinking, an ability to see the abstract and understand grey areas emerges. Individuals realize that their logic and ideas are valid, as there often isn’t one right answer to a question. Evidence building becomes more important in determining answers. The reflective stage is characterized by comfort with ambiguity and consistent use of evidence based problem solving and reasoning (King & Kitchner, 2004).

Cognitive Dissonance

Leon Festinger first described his theory of cognitive dissonance in 1957, noting that when an individual is faced with two or more beliefs that are incompatible, they will be brought to a state of discomfort until they find a way to resolve the subsequent tension. The result is often a new pattern of thought, or growth (Cooper & Carlsmith, 2001). When students are regularly in a context that exposes them to new ideas and different ways of thinking, they are more likely to experience cognitive dissonance. Participation in co-curricular activities, living with people who are different from them, working on campus with supervisors who become mentors, and developing friendships with international peers have been cited as ways for students to be exposed to new ideas and beliefs. Cognitive dissonance is frequently accompanied by strong
emotions which make the lessons more salient; fear, shame, embarrassment, and anger are emotions that particularly precipitate change (Barber & King, 2014).

For students to successfully make changes in their perspectives, they must be at a stage where they are ready for the challenge. When faced with cognitive dissonance too early in their education, students are unable to process the discomfort that they feel, and instead push the lessons away. Each student will be different in their growth and maturity, and in when they are opened to change (Barber & King, 2014). Often it is necessary for students to have the same lesson multiple times, potentially from multiple sources, before they experience a level of dissonance that brings new thinking. At times it may take years before a lesson is fully processed (Schlossberg, 2011). Immersion in new experience, such as that found in a global trip, provides opportunity for the cognitive dissonance necessary for change.

Conclusion

Theorists have different ways of looking at the individual and their growth, presenting pieces of a puzzle in understanding the change that occurs during the college years and the course of our lifespan. Person-environment theories such as Astin’s Student Involvement Theory focus on the ways that investing time in an activity impact the value attributed to it. Psychosocial stage theories define a set of developmental milestones that are faced as an individual grows. Chickering and Erikson are two theorists who described psychosocial theories. Cognitive theorists consider development from within a framework of understanding that evolves as the individual becomes more complex and abstract in their thinking. Perry and King and Kitchner are cognitive theorists who are often discussed in relation to college students. Festinger’s Cognitive Dissonance Theory explains the crisis of understanding that individuals have when faced with a set of circumstances that are incompatible with current belief systems.
Festinger found that new patterns of thinking emerge in these situations, driven by an inability to integrate new ideas into old patterns.

**Global Perspective**

Engberg and Fox defined global perspective as “the acquisition of knowledge, attitudes, and skills important to intercultural communication, as well as the development of more complex epistemological processes, identities, and interpersonal relations” (Engberg & Fox, 2011, p. 85). A global perspective encompasses an individual’s understanding of society beyond their local culture, and includes an interest in knowing more about the world at large. Global perspective can be measured in terms of knowledge, people skills, and internal values (Merrill, Braskamp, & Braskamp, 2012). As societies and economies become more global, educational institutions are placing greater emphasis on graduating students who have a global perspective. One way to develop a more global perspective is though international experience (Engberg, 2013).

Studies have looked at a range of global experiences undertaken by college students. Researchers have examined the impact of study abroad and international service on young people. Their findings provide insight into aspects of experience that occur during international medical service trips. Studies have also looked at aspects of travel that are common to all long-term travelers. Culture shock impacts individuals as they realize the differences in the new country. Reverse culture shock frequently is equally impactful upon return home, as the traveler realizes they have internalized new cultural values and ideas.

Research shows that a global perspective is an increasingly important aspect of a physician’s skill set. In our increasingly global society, doctors must be prepared to care for patients from around the world. Even if a doctor never leaves the United States in their professional career, they will encounter patients in the United States who have different
backgrounds and expectations in the healthcare setting. Researchers have defined important cultural competencies for medical school applicants to ensure quality patient care for all patients.

The theoretical exploration of global perspective first includes a review of important theorists in global perspective development. Next, it explores literature on study abroad and undergraduate international service trips. Then, literature on culture shock is examined. Finally, literature on the importance of a global perspective for a physician is reviewed.

**Global Perspective Development**

Theorists have studied the development of a global perspective in young people, seeking to understand how students process cultural identity. Many theories are stage focused, with growth proceeding from discomfort with difference, to greater comfort, to a celebration of the diversity of our global society. Given the increasing interest in measuring and increasing development of a global perspective, theorists have utilized research to develop assessments of cultural awareness to assist educators measuring program impact.

**Kegan.** Robert Kegan’s model of Lifespan Development describes five stages of identity development, four of which are modeled in adulthood. The first stage is impulse or reflex driven, as in infancy or childhood. The second stage is driven by self-interest, based on the individual’s wishes in the moment. This stage transitions from childhood to adolescence, and sometimes into early adulthood. The third stage is what most adults inhabit; it’s driven by social norms and expectations. The fourth stage, which not everyone achieves, is driven by the individual’s own values, based on their belief system. In the final stage of development, which few attain, is described as self-authorship, where the individual is free of predefined social requirements, and is free to live in the moment (“Constructive developmental framework,” 2018). Kegan’s theory presents a framework for describing the ability of individuals to consider
both their interests and that of societies. Kegan’s theory allows researchers to look at transition points, thus enables study of change that occurs during activities such as international travel. Kegan developed the idea of self-authorship which is characterized as a higher developmental stage where individuals can hold to their principles, while at the same time relating to others (King & Baxter Magolda, 2005).

**King and Baxter Magolda.** King and Baxter Magolda’s intercultural maturity theory describes their three-dimensional framework that details cognitive, interpersonal and intrapersonal development through three levels of development. In the cognitive dimensions, individuals move from a belief that their culture is “correct,” with a resistance to learning about other cultures, to a gradual understanding that other perspectives exist, to a comprehensive world view that enables use of multiple cultural frameworks. Interpersonally, King and Baxter Magolda describe movement from not understanding self and feeling threatened by difference, to exploring “the other,” to being opened to the viewpoints and perspectives of others. In the intrapersonal dimensions, individuals move from developing relationships only with people like them, and viewing others as threatening to a willingness to engage with others, to development of meaningful interpersonal relationships with a wide range of people. King and Baxter Magolda’s model pulls from a large selection of theorists, and holds a holistic bent (King & Baxter Magolda, 2005).

**Merrill, Braskamp and Braskamp.** Kelly Merrill, David Braskamp and Larry Braskamp developed the Global Perspective Inventory (GPI) to help educational institutions and their students measure King and Baxter Magolda’s three dimensions of cultural awareness. The GPI measures “development and acquisition of knowledge, attitudes, and skills important to intercultural communication and holistic development of more complex epistemological
processes, identities, and interpersonal relations” (Merrill et al., 2012, p. 356). The test is offered in an online format and results enable the test taker to gain an understanding of their development. For students participating in an international activity, a pre- and post-test can assess growth over the course of an experience. Over 200 universities have utilized the GPI to assess student development, with the anticipated benefit of improving programs and organizational efficacy (Iowa State University, 2018). Findings from the GPI demonstrate that international experiences “produce significant, positive effects across the cognitive and non-cognitive interpersonal domains” (Engberg & Davidson, 2012, p. 64)

**Social Identification Theory.** For many students traveling to a developing country for an international medical service trip, this may be their first experience being part of the minority group. For these students, they have experienced life as a member of a category, that of the group in power. To suddenly realize that they are not always a part of the majority, and that their status as a member of the in-group is not a given, can provoke anxiety and alter self-perceptions (Deaux & Burke, 2010). A result of this experience is an understanding of the privilege that they hold in their own society by virtue of being a part of the majority (Franklin, 2014). Students may attain greater empathy and understanding for members of minority groups in their own culture after having the experience of being a member of the minority themselves.

**Global Travel**

Studies have found a wide range of outcomes from global travel experiences. These outcomes are cognitive, including learning a language and location specific information, as well as critical thinking and problem solving. They are intrapersonal, including self-confidence, resilience and self-awareness, as well as an increased interest and respect for diversity. Outcomes are also interpersonal, including problem solving, communication and ability to build
connections with people who are different (Engberg, 2013). Research in study abroad and international service are examined in relation to global travel.

**Study Abroad.** Students have long participated in study abroad programs, with an increase in numbers in recent years (Paola & Lemmer, 2013). Much like students who participate in international medical service trips, students on study abroad travel to a new country with the intention of expanding their horizons. Students surveyed by researchers on their reasons for participation listed goals including “a desire for foreign cross-cultural experience, the improvement of foreign language ability, a desire to live in and make acquaintances from another country… and deeper understanding of a particular host country” (Carlson, Burn, Useem, & Yachimowicz, 1991, p. 8). Many students who participate in study abroad do so because they feel the experience will help them to grow as an individual (Pope, Sánchez, Lehnert, & Schmid, 2014).

Theorists have used several different scales to measure the impact of study abroad on students. Williams (2005) used the Cross Cultural Adaptability and Intercultural Sensitivity Index to measure changes in intercultural communication skills including resilience, flexibility, autonomy and ability to read non-verbal signals. She found that students who studied abroad demonstrated greater gains in intercultural communication skills, but this didn’t hold true across the board. Williams’ results showed that it wasn’t as important to go somewhere, as it was to get to know people from another culture. Thus, students who traveled abroad but only spent time with Americans didn’t make large gains in cultural awareness. Students who didn’t travel, but developed a diverse cohort of peers in the United States, developed stronger intercultural communication skills (Williams, 2005).
Engberg (2013) completed a large-scale analysis of pre- and post-study abroad experiences, using the GPI. His results found that students who participated in study abroad programs had significant growth in area of intercultural knowledge, self-awareness, comfort with different cultures and interest in diverse relationships. Development in cognitive arenas, such as knowledge of a language and increased understanding of the history, art or culture of a geographical place were also displayed. This analysis demonstrated that participants are frequently meeting their goals for their study abroad program (Engberg, 2013).

Hadis (2005) studied the impact of study abroad on participants. His results showed that participants gained academic knowledge, become more globally minded, and develop intrapersonal skills such as self-confidence and resilience. The most significant finding in the study was that students became more invested in their learning, returning as more serious students who understood that learning has rewards beyond a grade. Hadis theorized that this was a result of personal growth and increased maturity, two factors that were also found to have increased during the trips (Hadis, 2005).

**International Service.** Service opportunities are designed to enable college students to become involved with their communities, locally, nationally and abroad, thereby increasing civic engagement among college students. International service is designed to incorporate travel with volunteering; frequently travel occurs in a developing country with a high need for volunteers (Hollander, Saltmarsh, & Zlotkowski, 2002). Students from a wide range of disciplines participate in trips which may be very similar to international medical service trips. Programs allow them to travel to a developing nation, work with the underserved, and learn about their prospective career, Students may volunteer in areas such as international business, sustainability, environmental studies, or social services (“Connect 1, 2, 3,” 2018). Like international medical
service trips, participants must keep ethics at the forefront of their work, paying attention to the power differential when wealthy students travel to help the poor in developing nations. In particular, when vulnerable populations such as children, elderly, and disabled are involved, extra vigilance is required (Reisch, 2011).

Participants describe going on international service trips as a way to learn about a new culture and to serve (Stanlick & Hammond, 2016). International service programs that allow US participants to work in partnership with students or business owners in the culture where they travel have proven to be successful in helping to develop a global perspective in participants. In a study though Western Washington University’s PRIME initiative, a program that allowed business students to contribute to the mission of an organization in a developing nation, Tyran (2017) found that participants increased their desire to volunteer in the future, became more interested in global citizenship, and developed a greater interest in social justice. Likewise, students at Hofstra University and Virginia Tech Business School who went on a service trip in Africa returned thinking about values and goals though a new light, with an increased interest in social justice and finding a career that allowed them to make a difference instead of just money (Hamby & Brinberg, 2016).

Immersion in new contexts, with the investment of time and psychological energy brings about higher-level change. As Astin theorized, meaningful change doesn’t come from just thought and deep conversation, it also requires action. When students participate in an international service trip, interacting with people in another country and seeing direct positive outcomes to the clientele, they feel a connection and ability to have an impact. This empowerment is motivating for future activity (A. Astin, 1999). Students who feel that the problems of poverty and lack of opportunity in underserved areas are too large and they cannot
create change may be less likely to prioritize this type of work. Students who have seen that they can make a difference will be more likely to enter an area of work where they will continue to work towards social justice (Blue et al., 2005).

**Culture Shock**

Life experience defines how everyone perceives the world, creating a set of expectations of truths that they hold without question. These internalized ideals are often so ingrained, it can be easy to overlook the fact that others may have different perspectives. To understand how others may hold completely different opinions, it’s necessary to interact with people who are different in appearance, experience, socioeconomic status, family background, culture, and motivation (Takacs, 2002). Students who gain the most from international travel take the opportunity to interact with people who are different from them, engaging in activities and conversation, rather than just remaining with other Americans. Additionally, they continue to integrate their experience into their lives after they return (Rowan-Kenyon & Niehaus, 2011). This interaction typically leads to both culture shock while abroad, and reverse culture shock upon returning home.

Students who live in another country for an extended period tend to go through stages of culture shock. The first stage of culture shock is typically a honeymoon period of initial connectedness and love of all things of the new country. This is followed by confusion and frustration, as the individual runs into problems on a daily basis. Issues encountered may include an inability to communicate due to a language barrier, missing home including people, foods, and comforts, difficulty understanding infrastructure, frustration with technology gaps, and confusion about the differences in social norms. After a period of time, the traveler becomes accustomed to the new place, and finds a new comfort in the lifestyle of the country, adjusting to
the new way of life. This third phase of culture shock leads to a new level of understanding of the host country, with new problem solving skills within the context of the new culture (Ybarra, 1997). While culture shock is uncomfortable to experience, the cognitive dissonance typically leads to growth for the individual.

Conclusion

Development of a global perspective involves changes in cognitive, intrapersonal and interpersonal abilities that facilitate greater understanding of new cultures. Researchers have found that college students are at a stage where they are receptive to challenges to their ideas about difference, with an openness to new ideas and perspectives. Greater engagement with a wide variety of people, through activities such as study abroad or international service enhances global perspective. Change is not without difficulty. Students who visit other countries for an extended period of time typically go through culture shock as they adjust to their new environment.

Medical School Admissions

It takes more than just good grades and a high entrance exam score to gain admission to medical school. Medical schools complete a holistic review of applicants, looking for a wide variety of experiences and competencies from applicants. Prospective medical students must have prior research, clinical and community service experience as well as strong letters of recommendation (Monroe, A., Samuelson, W., Dunleavy, D., Dowd, K., Isabella, 2013). They must also demonstrate characteristics including “a service orientation, social skills, cultural competence, teamwork, ethical responsibility to self and others, reliability and dependability, resilience and adaptability, and a capacity for improvement” (Association of American Medical Colleges, n.d., p.1). Maturity, self-reflection, compassion, professionalism, dedication and
curiosity must also be reflected though experiences detailed in the application (Gross, Mommaerts, Earl, & De Vries, 2008).

The medical school admissions process today favors applicants who have taken the time to explore more than just academics in their undergraduate experiences. However, schools look for more than just time spent in activities, they are also looking for quality of experience and learning that has occurred. Each applicant is viewed within the context of their own life opportunities and experiences as a candidate for admission (Witzburg, R. A., Sondheimer, 2013). When admissions committees review applicants who have participated in global medical service experiences, they look at the applicant’s activities from an ethical perspective, assessing if they have participated in an appropriate manner (Evert et al., 2015). The medical schools’ rigorous review process is designed to ensure that applicants accepted into medical school more than just the academic ability to be a physician, they also seek the maturity and humanistic characteristics necessary to be a successful healer.

**Characteristics of Physicians**

Physicians were surveyed to find out what non-academic characteristics they felt were essential for incoming medical students. Doctors from a wide range of specialties were consistent in their opinions about essential traits necessary for practice. It’s important for entering medical students to have developed a foundation in these abilities, as they are not the focus of medical education. Top traits include, in order of rated importance:

- Recognition that patient care is the primary concern of a doctor. Being honest, trustworthy and acting with integrity. Good communication and listening skills.
- Recognition of one’s own limits and the limits of others. Has empathy and is non-judgmental. Ability to cope with ambiguity, change, complexity, and uncertainty.
Commitment to lifelong learning, competence, and performance development.


The Association of American Medical Colleges (AAMC) broke these essential characteristics down to key attributes that they believe all students graduating with the degree of Medical Doctor (MD) should possess. Characteristics include being altruistic, highly educated in the sciences, adept in the practice of medicine and life-long learners (Association of American Medical Colleges, 1998). Screening applicants for non-academic characteristics for admission is incredibly difficult.

**Holistic Review**

To increase humanism in the medical profession the Holistic Review Initiative, developed by the AAMC, places key characteristics of the applicant at the center of the admissions process. The overarching ideal of holistic review is to bring in a physician workforce that is dedicated to both the art and the science of medicine, with compassionate care of the patient at the forefront of practice (Association of American Medical Colleges, n.d.). Schools that admit students through a holistic review process note that their metrics of incoming students remain consistent, but that students are more diverse and are more engaged with each other and their local community. These schools have found that students admitted through holistic review are more active in their academics and are more opened to ideas and experiences that are different from their own (Witzburg, R. A., Sondheimer, 2013). Admissions committees look at applicants past activities as evidence of competencies and interests.
Clinical Experience. Clinical experience is a key component of an application as a way to prove interest in becoming a physician (Neumeyer, 2016). In a 2016 clinical experiences survey of medical school admission committees, 73% of medical schools that responded either highly recommend or require applicants to have participated in some type of clinical experience, and 87% stated that applicants who had no clinical experience would be at a disadvantage in application (Group on Student Affairs Committee on Admissions, 2016). Unfortunately, admissions committees are often vague about what constitutes “clinical experience,” leaving the student to make their own decisions on how to fulfill the requirement (Evert et al., 2015).

Some students choose global medical trips as a way to distinguish themselves in the application process, not realizing that inappropriate practice may in fact hurt their application (Todd & Prasad, 2015). Admissions officers in the 2016 survey expressed concern with undergraduate students performing independent clinical procedures on these trips. Over 45% of the schools surveyed stated that independent clinical experience in an international setting would either not help or hurt an application (Group on Student Affairs Committee on Admissions, 2016).

Service Experience. The United States is currently experiencing a shortage of primary care physicians. Given the aging population and the increase in insured citizens, the shortage is expected to grow. Studies currently show a need for 52,000 additional primary care physicians by 2025 (Petterson et al., 2012). Medical schools are highly invested in bringing in students who will choose to go into primary care specialties. Studies have found that high levels of community service before medical school are a strong predictor of later choice of primary care as a field of practice after graduation. Accepting service oriented applicants may address the looming health care shortage (Owen, Hayden, & Connors, 2002) (Mabel, 1994).
Greater duration and time commitment to service experiences has been found to correlate with greater engagement, as opposed to participation just for the medical school application (Blue et al., 2005). Admissions committees look for reflection of the impact of activities on applicants, with an interest in accepting students who demonstrate learning that will steer them in a direction of practice that will provide for the public health needs of the nation (Elam et al., 2002). Service minded self-reflection is frequently spelled out in the personal statement, with applicants marketing themselves as an individual motivated to medicine by altruism (Mabel, 1994). Global service may be perceived as an asset in application, and an indication of interest in primary care in the future.

**Interview.** Currently all US medical schools require applicants to complete an in-person interview to assess competency for admission. Interviews have different formats. Traditional interviews commonly have the applicant meeting one-on-one with a faculty member, admissions counselor and/or current student for a conversation or series of prescribed questions (Kleshinski, Shriner, & Khuder, 2008). Multi-mini interviews (MMI) involve students rotating though a circuit of stations, each involving a single interview question. Applicants are given a couple minutes to read the question and brainstorm answers before entering a room and spending six to eight minutes answering the question. All applicants rotate though the same stations, meeting with the same interviewers, which increases the reliability of the interview as an assessment. (Reiter, Eva, Rosenfeld, & Norman, 2007).

Interviews are designed to measure competencies such as critical thinking, ethics, and interpersonal abilities (Rees et al., 2016). MMI scenarios do not require specific knowledge, but rather assess communication and ethical reasoning abilities, areas that are deemed necessary for success as a physician. Individual scenarios may have the applicant working through a complex
problem with an interviewer or another applicant, role playing a situation with an actor, or answering a logic type question (Eva et al., 2012). Validity studies show that MMI results are predictive of performance ratings on clinical board exams, whereas traditional interviews do not show the same predictability (Reiter et al., 2007).

For an applicant to be successful in the admissions process, it’s critical that they can express their learning from their experiences during their interviews. Clinical experiences that allow an applicant to shine in the MMI setting, especially in role play scenarios, are an asset in the interview process. Volunteer experiences, particularly experiences that bring applicants into contact with underserved populations provide strong talking points about service (Peskun, Detsky, & Shandling, 2007). For a student to be truly successful in their interview process, they should approach their undergraduate experience with the understanding that activities will shape their character and that a mature character definition will facilitate success in the application process (Gross et al., 2008).

**Conclusion**

To get into medical school today, an applicant must put together an application that includes more than just academic qualifications. Admissions committees want to see evidence of characteristics that make for a humanistic physician. To assess applicants, the admissions officers complete a holistic review, looking at all aspects of the application. Of importance are clinical experience, community service experience, and performance on the in-person interview. Interviews are a full day, often having applicants rotate through a circuit of stations to assess their non-cognitive or “soft” skills.

To be a well-qualified applicant, undergraduates must demonstrate maturity, compassion, comfort with ambiguity, and an interest in life-long learning. These characteristics are developed
by many students during their college experiences. Students who challenge themselves with experiences that create greater cognitive dissonance are more likely to grow during the college years.
Chapter 3: Methodology

This study explores the impact of international medical service trips on the identity development, exploration of the medical field, and admissions success of premedical students. The study focuses on the lived experiences of eight alumni of a large, urban, private, selective four-year college in New England. These students all participated in an international medical service trip as a part of their co-operative educational learning during their undergraduate studies. Subsequently, all eight students applied, were accepted to, and matriculated into a United States Medical School. At the time of the study, all eight had finished at least one year of their medical education, seven were still in medical school. One had graduated from medical school, and was starting in his residency the day after the interview.

This chapter first describes the research design and methodology. It begins by reviewing the research questions. Next, the chapter discusses the reasons for qualitative research and gives an overview of and rationalization for the Interpretive Phenomenological Analysis (IPA) methodology. Data collection and analysis processes are described. The research participants are then introduced. Finally, limitations of the study are discussed.

Research Questions

The research study asked medical students to reflect on international service trips they took when they were undergraduates, to consider the impact on their development, exploration of the medical field and how trips may have helped with admission to medical school. How did trips change who they were as a person? In what ways did they believe they grew as an individual from their experience? Did they feel that participation in an international medical service trip helped or hindered their acceptance to medical school, and in what ways? The data
are explored from a developmental perspective, with Arthur Chickering’s (A. W. Chickering & Reisser, 1993) student development theory as a lens for viewing growth.

**Procedures**

**Qualitative Research**

A qualitative research perspective was chosen to glean individual experience and insight from current medical students who participated in trips during their undergraduate studies. Qualitative research is an outstanding way to gather information about phenomenon of which there is currently very little insight. This enables the researcher to understand where to explore in greater detail in future, larger studies. Qualitative research allows for detailed exploration of individual experience, thus enabling insight based on lived experience. The qualitative research process requires deliberate inclusion of a purposive sample; a small sample of subjects who share a common set of characteristics (Creswell, 2013).

Though there have been studies that relate to similar research questions, such as how trips impact medical students, how study abroad impacts students, how service impacts college students, and how ethics come into play, there is a gap in knowledge as to how international medical service trips impact undergraduate premedical students. Gaining an understanding of the nuance of individual learning is best enabled via a series of semi-structured interviews that allow the researcher to glean insight from individuals who have participated in this type of experience and are able to reflect on how their programs have impacted their development and interest in medicine.

**Interpretive Phenomenological Analysis**

This study utilized an Interpretive Phenomenological Analysis (IPA) methodology to understand participant insight. IPA methodology offers an opportunity to gather data that
examines the details of individual experience. IPA seeks to understand lived experience expressed in details of individual stories (van Manen, 2017). By conducting semi-structured interviews with a group of individuals who share a common experience, in this case international medical service trips, it is possible to better understand the lived experiences and meaning making of the selected group (Murray & Holmes, 2014). A purposive sample allows participant selection based on study intention, with the expectation that individuals who are included fit within a predetermined set of parameters. Saturation determines the point where data collection is complete (Suen, Huang, & Lee, 2014).

Because this study seeks to understand individual student insight and growth as a result of lived experience during international service trips, IPA was chosen as the most appropriate methodology of data collection. IPA requires the researcher to listen carefully to participant response to a series of semi-structured interview questions, learning about the individual’s unique story. This requires putting aside preconceived ideas about the phenomenon in question, gaining new insight based on dialogue (Cassidy, Reynolds, Naylor, & De Souza, 2011).

Because qualitative research is subjective by nature, it’s impossible to remove the researcher’s bias entirely from the final product. IPA instead requires that the researcher be conscious of positionality during analysis and writing. In this case, it was necessary to include an understanding of the researcher’s passion for international travel and interest in young people participating in global experiences to gain a full picture of results (Smith, 2011).

**Research Design**

IPA methodology, like all forms of research, relies on careful planning at every stage of the process. The first stages of research design are particularly important. Without a solid foundation, the entire study will be unreliable. Reviewing previous literature, finding an
appropriate theoretical framework, ensuring a purposive sample for interviewing, and drilling down the details of the study is essential (Cassidy et al., 2011). Before any interviewing can be scheduled, the ethics of the conversation must also be carefully reviewed, and IRB approval attained.

Careful parameters were set for study participants. This study seeks to understand the learning and development gained from international medical service experience as it impacts medical school application, student development and medical career interest. Thus, all participants must have participated in an international medical service trip as an undergraduate and must be current medical students or recent graduates participating in their internship year. International medical service trips may have been for a variety of durations, and with a variety of organizations. For the purposes of this study international medical service trips are defined as a global service experience in a developing nation that enables the participant to work in a setting that impacts medical needs of the local population. The medical setting may be hospital based, short or long term clinic, emergency medical services, or a program with an NGO. Students who participated in international service that was not medically related were deliberately excluded, as were students who did not apply to, or were not accepted to medical school.

In this study, it was particularly important to consider the timeline of service experience and outcome. The research goal was to understand impact in the long term, which meant interviewing participants after an interval of time had elapsed and major life experiences had occurred. Specifically, subjects participated in an international service project as an undergraduate, before application and acceptance to medical school. Interviews occurred after successful application and enrollment in medical programs. This allowed study participants to
not only reflect upon their experience, but also to gain exposure to the medical world that they will enter, the United States health care system.

**Data Collection**

For an IPA study, the primary method of data collection is via semi-structured interview, though additional data can be gathered through surveys and other methods. A purposive sample of subjects is typically gathered to interview. Data questions are typically open ended, flexible, and intended to allow the participant to direct the conversation. The tone of the interview is inquisitive and non-confrontational (Cassidy et al., 2011). Included in the interview data is more than just a transcription of the conversation, it also includes researcher notes on the way information was delivered, including tone, body language, pauses, signs of various emotions, and other non-verbal’s (Guinard, 2015). During the interview, the conversation is recorded so that the researcher can have a complete transcript after the session. In addition, the interviewer may jot down notes to themselves as a reminder of information that will not be picked up in the tape. Additional data sources include researcher notes and journal entries.

Collection of data for this study required gathering of a purposive sample of medical school students and medical residents for interview. This sample was attained from the PreHealth Advising Program of the university that students attended as undergraduates. Alumni of the program were contacted with a request to participate in the study, including reasons for the study, parameters for participation and an explanation of time requirements. A follow-up email reminding participants of the opportunity to participate was sent two weeks later. All prospective participants were advised of confidentiality measures to be taken for the study, and provided both oral and written consent.
Eleven medical students responded to the recruitment emails indicating interest in participation. After discussion about the student’s trip, one was excluded for not meeting the criteria. Two others were unable to participate because they were in remote locations on another international medical service trip and were unable to connect with the researcher during the prescribed timeline. The remaining eight students became the study subjects. Recruitment emails can be found as Appendix A and B.

Given that students attend medical schools around the country, all interviews were done virtually, either by phone or via the online platform GoToMeeting. Each subject participated in one semi-structured interview that lasted between 20 and 42 minutes. GoToMeeting has a function that allowed meetings to be recorded. A back up recording was made via electronic recorder. Participants were notified of the recording devices, and were advised that the recording could be stopped at any time. Once the interview was complete, recordings were transcribed. Participants were sent the transcribed interviews and given a two-week interval to make any comments and change recommendations; they were advised if they were fine with the transcript, they could choose to not respond, and this would be an indication of consent. Given the busy lifestyle of medical students and the low risk of the study, this was deemed appropriate and was approved by the Institutional Review Board. Participants were advised that at any time they could withdraw consent.

Data Analysis

Preliminary analysis of the interviews involved careful review of the transcripts and highlighting of salient themes and quotes followed by more in-depth analysis using NVivo Qualitative Analysis Data Software. Interviews were then coded twice for themes and subthemes. In the first review, salient quotes were pulled from the transcripts and matched with
corresponding vectors from the theoretical framework from Chickering. This review generated a set of themes and subthemes. Data were then recoded according to a smaller set of themes and subthemes, with stories beginning to emerge. Mind maps and concept maps tied data together, and ensured validity of results. Notes taken during the interview and kept in a research journal were then added to the themes, to underscore the interpretive nature of the study.

**Ethical Considerations**

When using human subjects to gather data for research, careful consideration of ethical guidelines is paramount. Before any outreach was made to potential participants, full approval from the Northeastern University IRB Committee was obtained, with clear guidelines for contacting participants, gathering data, retaining interview information, and keeping confidentiality. All guidelines were followed during the dissertation process. All participants received an emailed copy of the Unsigned Consent document before the interview took place. At the beginning of all interviews, this document was reviewed and recorded verbal agreement was obtained. After the interviews, recordings were transcribed and emailed to participants, who had the opportunity to make any corrections. All participants were assigned a pseudonym in the write-up to prevent identity recognition. Every attempt was made to keep the identity of participants anonymous.

The study created a low risk of harm; risks were deemed to be the same as occurs in everyday life. All subjects were medical school students, two were MD-PhD students. Thus, all were familiar with research procedures and protocols. Nevertheless, no assumptions were made of their knowledge of this research study. IRB protocols were carefully articulated and followed. In addition to having direct contact information for the researcher, participants were given
contact information for the Dissertation Chair and the IRB committee should they have any questions or concerns about the study.

**Participants**

All participants interviewed were medical students or medical residents who participated in an international medical service trip four or more years ago. These students attend various medical schools, but all completed their undergraduate education at the same institution, a large, urban, private, selective university in the Northeast. All of the participants went on their international medical service trip as a part of the university’s experiential learning program, where students alternate six months in class with six months of real world experience (“Northeastern University Cooperative Education,” n.d.). Thus, they were able to spend an extended period of time abroad without impacting their academic program. All applied to medical school through a traditional application process, and were assisted in this process by advising and a letter of recommendation from the PreHealth Program at the University.

Following is a brief description of each of the eight participants:

**Participant 1 – Sam.** Sam graduated from medical school this May and started his residency the day after our interview. As an undergraduate he spent four months in India.

**Participant 2 – Finn.** Finn has completed his third year of medical school and is taking a year for research. Finn spent three months in South America between Peru and Bolivia.

**Participant 3 – Jack.** Jack is a fourth-year student participating in an MD/PhD program. For his international service trip, Jack spent two months in Ghana.

**Participant 4 – Ruth.** Ruth is a third-year medical student who spent six months in Ghana. Ruth is the only African-American participant in the study.
Participant 5 – Isabella. Isabella is a fourth-year medical student who spent five months in South Africa.

Participant 6 – Jennifer. Jennifer is a second-year MD/PhD student who spent five months in South Africa.

Participant 7 – Tess. Tess is a fourth-year medical student who spent five months in South Africa.

Participant 8 – Mabel. Mabel is a second-year medical student who spent four months abroad, split between Argentina and Bolivia.
Realizing that I wanted to go to medical school while I was in South America was a big and exciting deal for me, because I had been waiting for a defining moment that would solidify one way or another whether or not I was going to apply. So, being there and being excited and seeing all these gory and beautiful and ugly medical experiences, and realizing that this was what was exciting to me, that was important.

- Mabel, second year medical student

Chapter 4: Findings and Analysis

Mabel’s understanding of medicine as a field was limited; she felt she needed an immersive experience to understand the career path. Although Mabel’s college allowed her the time to complete a six-month internship, she couldn’t find a position that gave her the same exposure as she would get abroad. When she booked her trip to Argentina, Mabel hoped to learn about her future career, thinking anything she could see would be great. She didn’t anticipate the other things that she would learn abroad, especially about herself. Like Mabel, all eight of the participants interviewed for this study detailed both personal and professional growth from their experiences abroad. Reflections related to discovering a love of medicine to learning about themselves as individuals.

After careful analysis, five themes were identified, each of which had at least two, and up to five subthemes. Participants discussed reasons why they chose to take part in an international medical service trip, they detailed their scope of practice while abroad; describing the activities that made up their days while volunteering. Personal development and ways that participants found they changed during their experience were described in all the interviews. Participants
described ways that they grew their global perspective, understanding cultures beyond their own. Finally, all of the participants discussed applying to medical school, and how the trip factored into their successful experience.

**Choosing International Medical Service**

Although increasing in popularity, international medical service trips are still undertaken by a minority of medical school applicants. Trips are expensive. They take time that could be spent in other preparatory activities such as ongoing research, club leadership positions, and long-term shadow experiences. Understanding why undergraduates choose to use their time and money for this purpose is important in gaining insight into participants’ mindsets. The first theme discussed in the study, why students participate in service trips, sets a baseline for understanding participation and about the subset of individuals who choose to travel to a developing nation to serve the poor.

All interviewees were asked why they participated and what they hoped to gain from the experience. Three subthemes emerged from these questions. First, participants hoped to learn more about medicine, ensure that it was a good career fit, understand global health, and see how care is delivered in another country. Second, the opportunity to travel during college was referenced by most participants. Third, participating in activities that improved a medical school application was addressed.

**Learning About Medicine**

Four participants were still in the exploratory stage of their career decision-making when they decided to travel abroad. For these students, being a doctor was something they were strongly considering, but had not yet committed to pursuing. They described needing an immersive, medically related, experience to understand what the career entailed and see if it
really was a good fit. An awareness of the immersive nature of medical training, the cost of education, and the intensive lifestyle of a doctor created a need for certainty about the field; as Sam stated “if you can make sure you are really doing the right thing with your life, I think that’s very important. It's not an easy road once you get out of undergrad, and you really need this. You need this to be something that you can't live without doing.”

Participants chose to get this experience globally for a variety of reasons, including difficulty finding a similar experience in the United States. Mabel, for example, described her decision, stating:

I was still on the fence about going to medical school at all, so I was hoping to use the trip to gain a lot of exposure in the field and use it as a way to test out medicine and what doctors do on a day-to-day basis and see if that aligned with what I was interested in pursuing as a career. I realized it was difficult to find that experience [in the US], where you could just go and spend time with doctors in a hospital for that purpose.

From her service trip, Mabel learned about the many roles of a doctor, noting “I didn't realize how broad medicine really was as a career, and how being able to have at least a little bit of an exposure all over different specialties was helpful.” This knowledge in particular cemented her decision to pursue medical school.

For other participants, international medical service was a way to decide between two possible areas of interest. Tess chose to volunteer at a public hospital in Cape Town, South Africa to explore her interest in both medicine and international affairs. One of her stated motivators for the trip was the dual exposure: “I thought this would be an experience that would help me pick a path, because I would be getting both experiences at once, and I could see which one I wanted to do.”
Not only was the experience in the hospital setting important for Tess in helping her to understand that medicine was a good fit, but it also helped her to realize that she wasn’t interested in working in a non-profit or NGO setting. Tess’s interest in global health remains strong after this experience; she traveled back to Africa in the summer after her first year of medical school, volunteering at a clinic in rural Tanzania. As a medical student, and future physician, Tess still uses the knowledge from her international affairs minor, particularly her understanding of global economics, politics and relationships in other cultures.

Similarly, Jennifer wanted to “know if medicine was a good path for me.” Like many students who choose to major in the sciences, Jennifer had multiple interests as an undergraduate; she was considering both MD and PhD programs. Her trip to Cape Town confirmed her interest in medical school. Jennifer described her experiences as substantive, stating “I know that it was this experience where I first was like, ‘okay, I want to be in the medical community and I want to apply to medical school.’” Having confirmed her interest in medicine, Jennifer decided to apply to MD/PhD programs. Her initial interest for her PhD was in basic sciences. However, Jennifer’s global experiences led her to switch her PhD to Clinical and Population health, which she feels “would not have happened if I didn’t travel.”

Other participants were further along in the decision-making process, and felt fairly certain that they were going to apply to medical school. For these students, their interest was in testing a specific area of medicine. Jack, for example, hoped to gain exposure to global health and the impact of research in rural areas of Africa on the health of communities. Doing field work, Jack realized the rigor of the lifestyle of a physician who serves in these areas, and the immersive nature of the career choice. While Jack “loved the experience,” he also realized that “it wouldn’t be a practical lifestyle that I wanted…so it detracted me from pursuing a full-time
career in global health.” Jack instead identified Doctors Without Borders, or a similar organization, as an alternative path for future trips later in his career.

Finn also traveled abroad to gain a better understanding of medicine, though he was already certain that he would be applying to medical school. Finn chose to “get exposed to what medicine was like abroad” at the advice of a mentor who told him that an international medical service trip would be “a really great way to learn how medicine is practiced in different places, get some exposure, and to build a better sense of self in medicine.” Finn was unique among the participants in that he traveled to two Spanish speaking countries and spent his first month there improving his language abilities outside of a healthcare setting. This enabled him to communicate with physicians and patients in their native language during his trip, which enhanced his exposure.

**Travel and Interest in Place**

Several participants’ decisions to volunteer centered around their interest in travel and having an opportunity to live in another country for an extended period of time. Three participants had never left the United States, and felt a strong need to see more of the world. For Isabella, the decision to travel wasn’t based on a well thought out plan to learn more about medicine, rather it was an impulsive choice, based on her interest in breaking the routine that she had developed as a college student:

Honestly, it was actually wicked funny. I was bored in Boston and I was like, I’ve never been out of the country, I’ve literally never left the country. So, when I first thought of South Africa, I was sitting here in Boston getting boring, I didn’t like how my life was going and I felt really complacent. Honestly on a whim I was like “there’s these trips that
they are advertising. Maybe I could just go.” And then I applied and got accepted and it was completely on a whim.

For Isabella, the fact that she would be gaining career or medical experience was initially secondary. She had decided to be a doctor at a young age, and had never wavered from this goal. Instead, she hoped to learn more about the world. Isabella took advantage of her time in South Africa, traveling over the weekends and visiting “a large majority of the country.” Isabella gained a sense of how diverse one nation can be, noting “I got to speak to quite different cultures because it’s not… they have 11 official languages, so it takes a long time to sort of get the flavor of everybody’s experiences.”

Likewise, Sam wanted an opportunity to travel during college, but was unable to fit a study abroad into his schedule with his major and required premedical prerequisite courses. Sam was particularly interested in traveling to India, a place that he “found fascinating and wanted to experience culturally.” Sam’s interest was piqued by trips abroad that his non-premed peers could take:

I had a bunch of friends go abroad and I was just like, “I need to get out, I need to go somewhere too.” And my class schedule didn’t really allow for a study abroad. So I figured I’d do [a medical trip] and picked India when I saw that it was available, for no real good reason other than I’d wanted to go.

For Sam, the trip was not only a medical trip, but also a cultural journey that enabled him to visit four different regions of the country and experience life in urban to rural areas. Sam visited major cities, tourist destinations, and typical vacation locations. He also had the opportunity to integrate himself more into the culture of India. For example, while working in the mountain clinic, Sam assisted the physician with house calls, visiting patients who were too ill to make the
day-long trek. This gave him a chance to trek to the homes of villagers who were a day’s walk from the nearest roads, and see a very different way of life. Sam described this experience, stating:

It was really incredible to see how they lived, and just make these home calls. Doing that, and taking care to them, was a pretty incredible experience. And this physician was just, he was pretty incredible, in terms of both being a western physician, but also he knew a ton, just walking on the mountains and telling me about these various plants and herbs that he could make medicine out of, just being ultra-resourceful with what he has working from a tiny clinic on the top of the mountain. It was a pretty amazing experience.

Sam developed an openness to spirituality and mindfulness while in India; in medical school he joined the Mindfulness and Meditative Group, of which he states “I never would have even remotely thought about doing that before going over there.” While Sam loved learning about the country, he also found the experience of being different to be isolating and difficult. He didn’t speak any of the local languages, and much of the time when he was travelling he was “lucky if someone spoke English,” which left him completely unable to communicate at the most basic levels. For Sam, this enabled him to understand the experience and feelings of the “other” and be more accepting of people who don’t conform with traditional American values, norms, lifestyles.

Ruth chose to go to Ghana because her family was from there, and she hadn’t visited in several years. For Ruth, the trip was an opportunity to return to her roots and to learn about a new facet of her country of origin. Ruth noted, “I knew a lot about my heritage but I didn't necessarily know a lot about medicine in Ghana and what that looked like, which is why I wanted to go there.” Ruth lived with a host mother so she had the opportunity to be integrated into traditional Ghanian culture. Ruth spent the summer after her first year of medical school
abroad; she returned to Ghana where she did research on adolescence with HIV and their experience with stigma and discrimination.

**Application Enhancement**

All the participants wrote about their service trip on their application to medical school, for most it was the topic of their personal statement. For some of the participants, the trip was undertaken with the idea that participation would improve a medical school application, adding something unique that other participants might not offer the school or something that was missing. For example, at the time of his trip, Sam knew that he planned to go to medical school, in fact he had already taken the MCAT, but he didn’t have the experience in a healthcare setting that medical schools want to see on an application. Sam’s trip allowed him to demonstrate his passion for the field by spending a dedicated period immersed in it. While enhancing his application wasn’t the only reason Sam participated, he acknowledged “I needed some more medical experience for my application and this seemed like a great way to do it.” While Sam could have gained this experience in the United States, it would have taken him more time, and he was already feeling behind because he didn’t decide on medicine until he was a sophomore.

**Conclusions**

Participants chose to do an international medical service trip for a variety of career and personal reasons. All of them wanted to gain more insight into a career in medicine, though their specific interest varied. For five of the participants, deciding if medicine was a good fit was the goal. Others were already planning to apply to medical school and wanted to understand aspects of a specific area of medicine. For all of the participants, their experiences helped them to answer their questions about medicine as a career and drove them to move forward with the goal of becoming a physician. For one of the participants it was a way to rule out global health as an
end goal. Learning about international medicine was important for some, enabling them to understand care in another country.

All of the participants mentioned their interest in travel and having a long-term experience in another country. For two participants it was their first time leaving the United States. For most of the others, it was their first time traveling alone and their first time visiting a developing country. Several decided to do a medical service trip because they were unable to fit a traditional study abroad into their schedule. For others, the trip provided a way to visit a country of interest and connect with the people and culture there in a way that a student might not. Most of the participants have traveled outside of the country since their trip, with several doing another international medical service trip as a medical student. Several also reported returning to developing nations for leisure travel based on their positive experience during their undergraduate trip.

Improving a medical school application was only mentioned by one student, Sam, as a reason for participation. While this was a primary motivator for Sam, he didn't do his trip solely as a way to enhance his application. Instead, it was one factor of many that drove him to participate.

**Scope of Practice**

Volunteering in a developing nation with vulnerable populations who are prone to exploitation, ethics must be at the forefront of activities. It’s critical that undergraduate volunteers are not acting beyond the scope of their ability. An unskilled college student is not a substitute for a healthcare professional; poor patients are not practice cases for rich Americans. Ethics must be at the center of planning for international medical service trips, participants should be acting in a way that does no harm.
Participants were asked how they spent their time during their trips to gain a sense of the tasks and activities performed. Four subthemes emerged. First, several participants discussed their feelings of inadequacy based on their inability to provide any skilled service during their trip. Second, for most participants, their main activity consisted of shadowing physicians. Third, when not shadowing, participants spent time in the hospital wards comforting patients, doing clerical work and cleaning, and providing an extra set of hands. Finally, several of the participants assisted physicians with research projects and writing papers.

“Useless” and “Incompetent”

Several participants spoke of their frustration with not having the skills or knowledge to be more helpful. Sam summarized their sentiments well when he stated, “as a premedical student you’re pretty useless in terms of helping out in real medical scenarios… It was kind of a tough experience in terms of feeling useless a lot and not really being able to contribute.” Sam’s role in a health setting was hand’s off. He described it, stating “when I was in a real clinic or a hospital, my role was very limited to just shadowing and observing, which is fine. It's good. And that's all a premed student should be doing at that point.” Sam listed his greatest contribution to the program as “my money,” since he paid a program fee to participate. For Sam, his inability to offer a meaningful contribution and be a part of the care team were particularly difficult. At one point during his four months, he took a week off to travel and “just experience life.”

For other students, their lack of skill proved to be a source of embarrassment, and created a need for self-advocacy. Volunteering in Argentina and Bolivia, where students go directly from high school to medical school, Mabel found herself being quizzed by the doctors on material that she hadn’t yet studied. Mabel described explaining to the doctors that she wasn’t a medical student yet, and thus didn’t have the knowledge that they expected:
I found that most of them assumed that since I was 22, that I was already halfway through medical school and would know at least diagnoses and, with treatment plans, what to do a little bit. I felt very incompetent because they would ask questions and assume that I would know what I was doing when in reality I had to explain over and over again what premed was, and I don't think anybody really understood.

Mabel found herself frequently confused about what was happening in the clinical setting, and occasionally “left behind” as the physicians moved rapidly from patient to patient. Rather than feeling like she was allowed to do work beyond the scope of her practice, Mabel found that the doctors in Argentina were “not as quick to invite you to participate, it's more of you kind of proving yourself that you want to be there and are willing to learn from them.” For her, this became a learning experience that she took into medical school, as she figured out the fine line of when to ask questions of the doctors and when she was in their way.

Jennifer went even further in describing her trip as a non-clinical experience. Because Jennifer was working with pediatric patients, her activities included playing with the children and spending time with them when their parents had to work or take care of their other children. Jennifer was able to get to know some of the children well, and to see them get better and be discharged. Nevertheless, when asked how she contributed on her international medical service trip, Jennifer responded, “yeah, I wouldn’t really call it – I guess the term service trip.” Jennifer described her trip as an educational experience, rather than one where she provided something that was needed in the hospital in South Africa. When asked why she wouldn’t describe it as a service trip, Jennifer responded:
I just equate service with like going down and providing some sort of either monetary or medical, medications or vaccinations or things like that. Whereas I feel like I'm the one who really benefited, I went down there and just kind of learned from everybody.

While Jennifer didn’t describe feeling useless or incompetent, she also didn’t describe the experience as one where she was helpful. Instead, Jennifer felt that it was a part of her undergraduate education, much like classes on campus.

**Physician Shadowing**

Most undergraduates who are preparing for medical school spend time shadowing a physician. Shadowing is a passive experience by nature; it is observational. At times students can ask questions, but often busy doctors don’t have the time to explain their actions to non-professionals. Shadowing allows students to see the full scope of a physician’s work and make an informed choice before dedicating the time and money to training. Almost all of the participants spent a significant percent of their time shadowing physicians. For them, this was not only an opportunity to test the waters and see if they liked medicine; it also gave them exposure to what Finn described as “some very cool things” that are uncommon in the United States. Finn reiterated the importance of shadowing being observational, and not a chance to try to get hands-on experience, even with the physician’s guidance:

> I think it's very easy to get sidetracked and lured into programs thinking that you want to go abroad to get clinical experience because they'll let you do stuff you might not be able to do in the US. And that is a trap. That is not what the goal should be. No medical school cares if you come in with more medical experience. They will teach you medicine.

Reflecting on the experience, Finn is aware how little he knew about medicine, and how inappropriate it would have been for him to give clinical care. Had he acted differently on his
trip, Finn would look back at it with remorse instead of as a highlight of his undergraduate experience. Finn’s advice to students who might participate in the future is to “choose carefully” when planning a trip, to make sure that “you will be able to grow as a person, not necessarily just in clinical experience.”

Likewise, Isabella described having the opportunity to see “a lot of really cool, interesting medical pathologies”:

I saw a patient with TB of the axillary lymph nodes who specifically had an arm pit the size of a grapefruit that was essentially filled with an infection. I’ve seen babies born to HIV positive mothers, who are HIV negative thanks to the advances that we’ve made with anti-retrovirals. I’ve also seen, unfortunately, babies who were born to HIV positive mothers who were born HIV positive, and how that impacts the body and the family.

While many people would not describe these experiences as “very cool,” for the participants, they were fascinating and impactful. Isabella knew that she wanted to go to medical school when she went on her trip. For her the observational experience made her more passionate about social justice and working with underserved populations.

Several participants discussed having the opportunity to make house calls with the doctors and nurses. One was able to volunteer on a mobile clinic. These experiences left the participants with an understanding not only of the lifestyles of the patients from home visits, but also the incredible sacrifice that physicians in developing countries make to care for a population that has minimal access to transportation and healthcare. Finn was impressed with one doctor he shadowed in rural Bolivia, describing his impact on patients. “They would close their clinic and drive out to go see a patient, just because they knew that they couldn't get in. So it was cool. It had a big impact. It's still something I kind of carry with me, remembering how dedicated they
all were to their patients.” Likewise, Jennifer spoke of the dedication of medical students working on a mobile health van in the poor townships, testing patients for sexually transmitted diseases including HIV:

The first patient who came in, they were giving her an HIV test and the power went out in the whole township. And for me it was just very kind of jarring to be in this low-income community giving an HIV test and in mobile clinic and I'm like, the power's out and that's just normal for them. And then the test ended up being positive, which again, for me it was so abnormal; this life shocking event. But for everyone there it was kind of just the norm and seemed very mundane.

Several participants discussed the delicate balance of learning and not getting in the way that they practiced while shadowing. While this was difficult at the time, they acknowledged the skill as one that proved to be useful as a medical student. For example, Ruth’s organization arranged for her to shadow midwives in Ghana. However, no one in the hospital informed the midwives that she would be joining them. This started her off on the wrong foot with them. Ruth found that “a lot of the midwives had a no-nonsense policy,” and “a certain demeanor where you can’t ask too many questions.” Navigating the maternity ward and eventually developing a connection with the midwives was an achievement for Ruth, one that she uses in her United States medical training:

As a third-year medical student, you feel like you're super small. One thing I made it a point to do was to introduce myself to everybody. I do because I think it becomes awkward after you've been standing there for an hour watching the surgery and nobody's addressing you. And that's because of those awkward times in Ghana where one of the
nurse midwives didn't know who I was, and then afterwards they would ask. After that experience, I would always introduce myself.

This theme was echoed by several other participants who found themselves using the soft skills that they gained in assessing a medical setting on their return to the US. As medical students, they found they could navigate the balance of staying in the background and being assertive around the physicians. For these students, shadowing in another country gave them an opportunity to learn valuable interpersonal skills.

**Time with Patients**

When participants weren’t shadowing physicians, they spent time on the wards. Most of this time was spent interacting with patients who were hospitalized, or in the emergency room with patients who were waiting either to be seen or for lab results. Isabella describes being “incredibly enthusiastic,” and “eager and willing to be there” as her greatest contribution. She found herself assisting by giving her time, a commodity that the doctors and nurses frequently lacked:

> When the doctors or the nurses didn’t really have the time to really sit down and interact with patients, I was that person that could talk to them, or at least sit with them if I couldn’t speak the same language, and just make them feel more comfortable, that kind of thing. As well as, if somebody needed help with something, I was that person.

For several of the participants, this type of connection with the patients formed an important part of their global experience, connecting them to people from the country that they visited and enabling them to develop a bedside manner.

Several participants reported experiences with patients that informed who they want to be as a doctor. For example, in the hospital where Mabel was volunteering, families weren’t
allowed on the Labor Unit; instead women were accompanied by medical staff and volunteers.

Mabel described one particularly difficult delivery for a 17-year-old in her first pregnancy:

She came into the emergency room and everything was fine but then when she got up to the labor unit it turned out the baby was no longer living. The way that the doctor told her was basically just “your baby is dead and there’s nothing you can do.” I was really upset #1 that’s how the doctor would actually handle it, and #2 that this whole situation was happening to this first time young girl. So for like six hours, I just stayed with this girl while she had the stillborn baby. Everything is the same. The procedure is the same. It's just at the end you get this purple little baby instead of a happy crying pink baby.

For Mabel, being a support for this young woman was both a privilege and a learning experience, one that she still thinks about today. Mabel is determined to ensure that this experience will make her a better physician, stating “the more I'm in medicine the more you get caught up in everything that's going on, but the way that you tell people what going to happen and how you behave can have a really huge impact on their care.”

**Research**

For several participants, contributing to research was a large part of their experience. Participants gathered data, completed analysis, and used their English skills in writing journal articles. Most participants had prior research experience, and were able to contribute immediately. For example, Tess’s main project was clinical research. Tess assisted with four research studies that focused on infective endocarditis, rheumatic heart disease, heart valve replacement and repair and tuberculosis. Tess spent the bulk of her time in South Africa making follow up calls to patients to conduct surveys on outcomes, mining data from charts and government sources, and gathering information from patients while they were recovering from
their surgeries. Isabella assisted a pediatric neurologist by doing assessments of children with HIV. Her role was to spend time playing games with them to assess their milestones. With the knowledge gained from these assessments, Isabella was able to assist the physician with writing a paper on how HIV impacts brain development.

While Tess and Isabella were able to jump right into their research projects, other participants found that they need to learn location-specific information. Jack describes his first realization of his own naivety, which occurred on the plane to Ghana:

I really had no idea what I was getting into; I can tell you on the plane there, someone was asking me, what am I doing in Ghana? I'm like, "oh, I'm going to be working on this malaria and pregnancy project." And he goes, "well, what type of malaria?" I'm like, "I don't know. Malaria, malaria." I didn't realize the different types of pathogens.

In Ghana, Jack’s project had him assisting with field research to study which of two treatment protocols was more effective against malaria in pregnant women. For Jack, the population health study was different than previous research, and allowed him to learn about field studies and gathering data in remote areas. It also offered him an opportunity for adventure that’s not always associated with research, since he spent his time driving around remote dirt roads on the back of a motorcycle.

Conclusions

Participants did not report practicing in unethical ways during their trips. Instead they found themselves feeling useless and uncomfortable about their lack of skill, unable to assist. At least one participant did have to advocate for herself, repeatedly explaining her level of training. Rather than engaging in clinical practice, participants spent their time in observation, comforting patients, and assisting with research. Premedical students would be able to engage in any of
these activities in the United States, thus participant descriptions did not indicate that trips were used as an avenue for unethical practice. One limitation of this analysis is that since interviews were conducted via an online platform, it wasn’t possible to gain insight via non-verbal behaviors. Participants may have been holding back on their activities, not wanting to disclose them to their former undergraduate advisor.

**Personal Growth**

All the participants described their international medical service trip as a life-changing experience; Sam summed up their sentiments when he stated, “it would be impossible to go on a trip like that and not be changed at least in some way.” Being on their own in a developing country, often away from supportive families for the first time, enabled participants to test their abilities and understand their capabilities. Most of the participants spent time both during and after their trip reflecting on how they were changed by their experience. Participants described growth in understanding of themselves, and in their intrapersonal abilities. They talked about increased comfort with ambiguity and increase self-confidence. Several described how challenging themselves in college encouraged them to seek out future challenges as an undergraduate and medical student.

Participants were all asked if they felt the trip changed them and, if so, in what ways. Three subthemes emerged. Participants described new-found maturity, with greater self-awareness, flexibility, resilience and clarity of values. Participants talked about becoming self-reliant, taking care of themselves and solving problems on their own. Finally, they noted increased self-confidence, with a heightened trust in their ability to be successful.
Maturity

All the participants described ways that they had matured though their experience. The depth and nature of that growth varied. Several described becoming more self-aware, learning about themselves and how to get through stressful times. Others noted new depths of compassion, and realized their calling in medicine was working with the underserved. Resilience was a theme that repeated; participants noted that they overcame challenges that at first seemed insurmountable. Participants described letting go of expectations for the trip, a skill that served them well later in increased flexibility. All of the participants described gaining clarity in their values and purpose in their goals.

Self-Awareness. Several participants described having a greater understanding of their strengths, weaknesses, and breaking points after spending time in another country. Sam spoke of being able to “spend a lot of time in introspection,” where he took the time to “write a lot in journals and really become more comfortable with who I am and what I need as an individual to get through the day in a satisfied way.” For Sam, this knowledge has helped him to make good choices in his life, particularly in medical school. Sam is typically an extrovert and enjoys spending his time with others, so he may not have gained this same insight at home, where he wasn’t forced to spend time alone. Sam reflected on the importance of “having that kind of understanding of where your breaking points are and when you need to take a step back and take time for yourself” as something that’s “been huge for me through medical school and I’m sure will continue through residency as well.”

Isabella described noticing, even while she was on her trip, that how she thought about medicine was changing. Isabella realized that “the experience was opening my eyes to the world of public health and global health.” For Isabella, living in South Africa made her more
compassionate, as she saw the impact of poverty on health, and “how racism or poverty or access to transportation or healthy vegetables impacts our patients.” This realization helped her to clarify her values and focus as a medical student, reinforcing her interest in understanding not only pathology but also social determinants of health. After her trip, Gabriella found that “the things that I found important I could identify better,” which helped her to make informed decisions on her next steps, both in the gap year job that she took and in the school she chose to attend.

**Flexibility.** Being in a developing country helped most of the participants learn to alter expectations and make compromises, understanding that not everything goes as expected. Jack, for example, described his plans changing after he arrived at the research center in Ghana:

> The project I had wasn't really that structured. In fact, I showed up at the center and they're like, “oh, that project we were talking about just kinda came to a close, but like you can talk to some other people around here and we can set you up with a new thing.”

So from right from the get go it was a pretty crazy experience and it wasn't really what I was expecting.

Rather than be upset that things weren’t “really what [he] was expecting,” Jack embraced the new research project and wound up “having a great time.” For Jack, the trip was an opportunity to “gain survival skills.” His entire experience in Ghana helped him to become more adaptable, adjusting his expectations and ideas when the unanticipated occurs. As an MD/PhD student, Jack puts these skills to use in his research, persisting when his work doesn’t produce the results that he expects.

Mabel also described unexpected circumstances that enhanced her flexibility, in her case having a housing situation that wasn’t what she expected. Mabel assumed that she would live in
shared housing space in Argentina with other Americans, but when she arrived she found that
she was the only English speaker. For Mabel, this meant communicating only in Spanish and not
having a peer group during her free time. While this was initially a surprise, Mabel “kept an
open mind” and found ways to “be very adaptable and flexible and keep a positive attitude even
when situations [weren’t] going quite according to [plan].” Although the lack of peers changed
the nature of her trip, Mabel was able to develop connections by pushing herself to be more
outgoing and taking initiative. Mabel not only improved her language skills and gained new
friends, but she also increased her self-confidence and comfort in her ability to handle the
unknown.

Resilience. Most of the participants described bouncing back from challenges and
setbacks, discovering new resilience though their experiences. Ruth described her experience
with the no-nonsense midwives on the maternity ward as one where “definitely I learned about
my resilience because up until that point I had met only people who were welcoming and willing
to teach me.” For Ruth, having to earn the respect of a group of critical, strong women was
initially daunting. However, she persisted and “over time, a lot of the midwives softened up,”
accepting her into their ranks. Ruth left for Ghana with concerns about her ability to perform in a
fast-paced, high stress environment like those found in medicine. Her experiences with the
midwives helped her to develop her confidence in her ability to be successful as a physician, and
carried over to confidence in medical school. Ruth reflected on her experience, “the women in
the maternity unit, that was definitely a challenge for me in the beginning, but if it wasn't for that
experience, I wouldn't feel comfortable now.”

Likewise, Mabel’s experiences in the clinic helped to increase her resilience. Mabel
described her trip as “a lot of exposure therapy” because she frequently found herself in
situations that made her uncomfortable. For example, she described “having the chronic fear of being in the way,” and “appearing incompetent,” both of which “happened a lot of the time.” Rather than reflecting upon these experiences with negative emotions, Mabel described them as transformative, stating “it ended up being great, otherwise I would have those fears going forward. And I learned that a lot of it is just situational and it's really not that big a deal. So, for me I grew a lot.” Realizing that she was capable of rising to the challenges that she would face in medical school, and that she found the clinical setting to be exciting, helped Mabel commit to moving forward in a career as a physician.

Tess described a more personal resilience, as she learned to navigate living in a new country with people who were from different cultures. Tess lived in shared housing in South Africa and was the only American for much of the time. For a twenty year-old who had never left New England before, this proved to be both challenging and rewarding.

I had to learn how to make friends who were from very different cultures than me… So I had a very different experience of trying to get along with people very different from me. I was exposed to a culture in a population that is very different than New England. It was the first time I ever saw true poverty and I could understand how different people's qualities of life were. So it was very eye opening and not only in a very personal way, but also in terms of just opening my eyes to other people's experience.

Tess had been prepared to experience culture shock at an academic level, but still found herself struggling with daily realities. Tess persisted in actively engaging with others, and ultimately found what she learned outside of the hospital to be as valuable as her learning inside the hospital.
Clarity of values. All of the participants described ways their experience helped accentuate what they valued, facilitating prioritization of what was most important in their lives and careers. In addition to confirming medicine as a career choice, participants gained valuable insight into social determinants of health, public health issues, the importance of mental health services and preventative medicine. They also came to understand their own personal values, particularly related to service and cultural awareness.

Isabella, for example, felt that her trip “pretty much directly influenced how I think about medical school, where I wanted to go, the types of things that I wanted to be a part of here and where I want to go afterwards.” After returning from South Africa, Isabella immediately began to apply her newfound interest in public health; she created a new club on her campus, PIH Engage. PIH Engage is connected with Partner’s in Health and works with young people to bring sustainable health care solutions to the world’s poor. After graduation, Isabella decided to take two years away from academics before starting medical school. During this time, she worked for the Centers for Disease Control, on a project related to tropical diseases. Once in medical school, Isabella structured her experiences to enable her to focus on social justice and social determinants of health. Isabella’s values are clearly delineated in the way she approaches her medical education. She observed:

I definitely get very frustrated when other medical students don’t understand how racism or poverty or access to transportation or healthy vegetables impacts our patients and I get very frustrated when other students don’t want to learn about those things and I think that a lot of that can be traced back to my experience in South Africa. I find it kind of weird that somebody would rather learn about the pathology of disease as opposed to the social
parts of that impact on the person’s health because we know that the social determinants of health impact a patient well before the health care system.

Isabella will be applying for residency this year and plans to work in emergency medicine, where her knowledge public health and of underserved populations will enhance her caregiving. She sees herself volunteering with an organization such as Doctors Without Borders in the future.

Jennifer noticed the huge lack of mental health care for the poor in South Africa, and the impact that it had on some of the country’s most vulnerable. One young boy’s experience particularly impacted her:

A little boy in the neurosurgery clinics came in from a gunshot wound… It was time to go home and physically he was fine, but mentally he was just scared to go home and be a normal kid. And for me that was really telling for the importance of mental health. I asked the doctor, how can you discharge him when he's still not 100 percent; he doesn't feel like himself and you're not giving him means to get that? And he basically said we don't have that option here. There's no one we can send them to.

Jennifer learned that a lack of mental health care wasn’t limited to children, or patients in the hospital. In South Africa, Jennifer lived with a group of young people, some of whom were volunteering in a refugee center. Conversations in the dorms highlighted the overlap between lack of important healthcare and refugee status:

[It was] just a mind opening experience talking with [the other volunteers] because it's such a different job than being in medicine but also so linked to it. Talking to them, a lot of the issues [refugees] face were health issues and mental health issues. So I think I just grew a lot as a person through becoming more aware of all these different issues in the world that I had kind of been ignorant to before.
This new awareness of mental health and health disparities was the root of Jennifer’s shift in focus from basic science to clinical and population health for her PhD. Jennifer’s experiences in South Africa gave her “a broader perspective of the world [and] made [her] want to do more population based research as opposed to molecular.” Jennifer is still deciding on a final path; as a first year MD/PhD student she has plenty of time to follow her interests.

While Finn found his clinical program to be “really really excellent,” it was in the non-medical areas that he described his greatest growth. Finn noted “I think it had a huge impact on who I became and what I found important.” Finn is very outgoing and especially enjoyed having the opportunity to interact with a wide range of people in two new countries, using his Spanish language skills for communication. Not only did he become “more interested in other cultures,” but also in individual experience, “understanding people’s backgrounds and how that brought them to where they are.” Although Finn currently doesn’t have a lot of expendable resources, he prioritizes travel as something that is important to him. In particular, he enjoys going to “unique places,” such as Columbia, Myanmar, and Thailand, seeing what life is like outside of the tourist areas. Finn’s interest in people who are different from him and their stories is more than a side note to his career; as a physician his ability to connect with his patients will have a positive impact on their health.

**Self-reliance**

For all of the participants, their international medical service trip was their first trip alone to a developing nation; Jennifer noted the importance of this, stating “I was 19 or 20 when I first left. I’d traveled a lot growing up with my family but not so much on my own, so it was very much an independent endeavor into just this whole new world.” Several participants described preparing before they left the United States, as they planned to spend time in a country where
safety was a greater concern than at home. Isabella, for example, was nervous about being on her own in South Africa, a country known for its high incidents of sexual assault and other violent crimes. She made a deliberate effort to learn how to stay safe to ensure that concerns of safety wouldn’t keep her from having a positive experience on her trip:

- Be practical about how to keep yourself safe and don’t be so worried that it prohibits you from experiencing a different culture. Pick a place where you are a little bit uncomfortable to see something that makes you a little uncomfortable because those are the things that really teach you about yourself and about others.

For Isabella, being self-reliant and making sure to understand how to keep herself safe was not only a primary motivator, it was also a means to ensure that she had an experience that challenged her assumptions and made her grow as an individual.

Being alone in a foreign country was a challenge for all the participants. For many, there were no other Americans in their program. For a couple, there weren’t very many English speakers and they were forced to use their foreign language skills. Some were alone more than they were used to, and felt isolated. Participants had to learn to assert themselves in unfamiliar surroundings, sometimes making mistakes based on cultural norms of which they were unaware. Although most expressed that they struggled at times, they also reflected on their satisfaction with their success with what Tess called “learning how to kind of operate independently and be on my own for really the first time.”

Most of the participants had time on the weekends, or during a vacation, for extended travel. This was also a time to develop self-reliance, as participants navigated third-world transportation, difficulty getting money, and the multitude of languages in the regions. Jack described the most adventurous travels, riding on crowded busses in Ghana and visiting smaller
towns with infrequent access to money, and “crazy stories” such as “a time where I thought we weren't going to be able to sleep in a hotel.” Jack “was worried we were about to have to sleep on the street one night. But that ended up working out okay. We were able to get a room.” For Jack, the experience of traveling and living with the local people helped him to understand how much opportunity he had in the United States, and to realize that he should take care of himself better. After he returned from Africa he started to exercise regularly, a practice that he continues today.

**Self-confidence**

Participants felt that the challenges they faced helped them to gain trust in their abilities and judgment. Mabel believed that “the biggest thing that I gained was confidence.” For Mabel, this self-confidence wasn’t a result of success in clinical activities; rather it was based on overcoming her discomfort when she felt incompetent in the clinical setting, or unable to communicate:

> I was put in a lot of positions where people thought that I was really dumb or really not doing the right thing and I learned to be comfortable with feeling that discomfort and knowing that it's not, not me personally, it's just the situation that I'm in. But I think it makes me a lot more, a lot more sensitive to the needs of other people that are probably experiencing a similar feeling.

As a medical student, Mabel continues “asserting herself” in clinical settings, making sure to ask questions of the physicians and “be more outgoing and a little more curious,” even if she isn’t sure how the doctor will respond. From her trip, Mabel learned that she will make mistakes and feel awkward during her training, but this feeling is transient and “not really a big deal.”
Jennifer also specifically described her trip as helping her to gain self-confidence, in her case in her ability to travel alone in a developing country. Jennifer took a year off between undergraduate studies and medical school, and had the opportunity to travel. Rather than visiting countries that are similar to the United States, Jennifer chose to go to disparate nations. She spent two months solo backpacking in South East Asia, five months alone in Central America, and visited a friend in the Peace Corps in a small village in Zambia. Jennifer always wanted to travel, and her trip “definitely opened my eyes to different parts of the world and made me just want to see way more. And I think it gave me a lot of confidence to do things on my own.” It was this later travel that eventually convinced Jennifer to change the focus of her research, as she encountered the same social-based medical issues over and over:

In Cape Town I got introduced briefly to public health ideas or global health ideas. And then I took a gap year and I traveled and just doing more travel and seeing more of these issues, I decided to switch my PhD to clinical and population health instead. And I think that would not have happened if I didn't travel. It's just a broader perspective of the world made me want to do more population based research as opposed to molecular.

Participants early experiences in healthcare on their international medical service trip helped to build their confidence as they continued their education. For some, they described a direct impact in the clinical setting. For example, Ruth’s experiences with the midwives in Ghana led to subsequent positive experiences in US clinical settings, introducing herself to “no-nonsense” doctors. For others, like Jack, the retelling of “crazy stories” enabled him to see his experience through other’s eyes, and redefine himself as someone who is adventurous and “ready for anything.”
Conclusion

All of the participants detailed ways that their international medical service trip was a growth experience. They expressed different ways that they developed maturity during their trip. For some, time alone allowed them to become more self-aware. Others became more aware of what would make a meaningful career. Participants learned to be flexible, accepting the unexpected and rolling with it. For many of the participants, their trip exposed them to difficult times, and they discovered that they were able to overcome these obstacles. Reflecting back, these experiences proved helpful in medical school when difficulties arose.

For all of the participants, this was their first trip alone to a developing nation, and for many it was their first trip outside of the United States. While some were initially nervous about this travel, in the end all were able to problem solve logistical difficulties as they arose, increasing their self-confidence in their abilities to be self-reliant. They also felt that their success in their programs increased their confidence to push their comfort zones in the future.

Global Perspective

All of the participants were able to immerse themselves in the country they visited, gaining a new understanding of the world outside the United States. Tess summarized participants reflections, stating “it was very eye opening and not only in a very personal way, but also in terms of just opening my eyes to other people's experiences.” Reflections on the experience of living in a new culture, developing lasting friendships, and their first experience with abject poverty were common. Everyone who visited South Africa discussed living in the aftermath of apartheid, and overlaps with US racial relations. All of the participants gained an appreciation for the easy access to healthcare and luxury items that they enjoyed in the United States, and reflected upon their new understanding of the privilege that they enjoy in their lives.
All of the participants were asked how their trip changed their global perspective including what they learned about the country they visited, their favorite story from their trip, difficult encounters they had, and about relationships they developed. Four themes emerged. Participants talked about the impact of spending an extended time in a country that was very different from their own, being able to step outside of their previous experience and gain new understanding of points of view. They described making life-long friends, some with people from the country they visited, and others with other volunteers. Participants saw true poverty for the first time, and came to understand their privilege. Finally, participants described their dislike of “poverty porn” and “white savior complexes.”

New Points of View

For all of the participants, living in a foreign country allowed them to see the world from a different perspective. Sam related the importance of this experience, stating “I think it's important for everyone to experience other cultures, other parts of the world. Just travel in general is important I think, just to get a perspective on life.” Sam found that for a future physician, working with diverse populations was a critical part of his career decision-making:

Even if you're not practicing in a third world country, you're gonna be dealing with underserved populations in some way, shape or form at some point. Realizing that you're okay with that, that you have a passion for working with these populations and that this is really what's calling you in life, I think that's very important.

Sam realized that he had a passion for working with people who are different from him, an interest cultivated by his experience of being the “other.” He noted, “I didn't fit in with society or the culture and I was by myself, so I spent a lot of time in introspection.” Sam used the experience to better understand both his perceptions and who he was. After a time, Sam was able
to “integrate into the culture” while traveling, which was important to him since he traveled to India because he “found it fascinating and just wanted to experience it.” Sam “felt compelled” to return to India, a trip that he took after graduation, because he wanted to “see a lot of stuff that [he] hadn’t been to” and experience the country with his girlfriend. For all the difficulty he had on his trip, Sam “ultimately loved his experience” because it helped him to grow as a person and future physician.

Jack had the opportunity to view the world through a new lens as he began “taking a step back and listening to people” during his time in Ghana. Jack describes realizing that people in Ghana had completely different beliefs from him:

I remember it feeling very strange when I realized basically everyone I was with believed without a doubt in black magic and kind of voodoo stuff like that. It's very weird when everyone you're with has very different beliefs from you. I can't really describe how that feels it kind of, it's almost like some kind of gaslighting experience I guess.

This experience gave Jack a new self-awareness about beliefs that he had never thought to question, helping him to realize that the scope of what is “normal” around the world can vary greatly from his normal. For Jack, this lead to a new openness to “the other” in medical school, realizing that patients may come to see him with ideas that seem completely natural to them, but outside of his experience.

Isabella realized that she preferred the friendly, open nature of South Africans over the more closed affect of New Yorkers. Isabella had only briefly left New England before her trip to South Africa, and so the only way of relationship building that she knew was the New Englander’s stoic, slow moving, gradual creation of friendships. In South Africa she discovered a new way to connect with people, with introductions and new friendships springing up even
during a quick meeting. Isabella described returning to New England, stating “I’m sure anyone will tell you, when you travel internationally, especially for six months, like I did, when you come back you start to resent the way that Americans or your friends behave.” In particular, Isabella disliked the way that Americans were slow to develop new friendships, sometimes not introducing people when they met in passing. Isabella noted that her behavior changed during and after her trip, based on her learning about a new culture.

Jennifer felt that the experiential learning gained from living in another culture was “more valuable than any course that I took in college” because it “taught me a lot about the world and people in general.” She enjoyed having the opportunity to learn about culture in South Africa, but ultimately felt that the location for travel was irrelevant. In Jennifer’s mind, it was important that she went. Jennifer gave the following advice for future premed students:

I think sometimes people sweat about where they're going and the money and what they're actually going to be doing, and I kind of feel to a certain extent it's just the act of going somewhere and doing something, and you'll learn through wherever you are. Yeah, I'd say just go with your gut.

Jennifer found her trip to be transformative in her undergraduate career and advised any future student to “just book the flight and go for it!”

Living abroad helped Finn to realize the different expectations that patients may have in a healthcare setting. Returning home after his time abroad, Finn found himself learning about different ways of life in the United States. He noted:

You're very open to exploring other cultures and exploring different customs within your own country when you're kind of forced to live a totally different life style than the one you're used to. And the same with medicine, you know, you're more understanding to
other customs and other cultures and socioeconomic classes. I think a lot of that did come from, you know, my experiences abroad.

Once Finn’s time abroad opened him to new experience, he became interested in finding outlets at home that enabled him to explore culture and different customs. Finn sees cultural exploration as something that he plans to have as a part of his career. He hopes to continue with global work as a physician.

**Relationship Building**

Living in another country for an extended period of time allowed participants to establish relationships and bonds with peers, and with patients who they met in the clinic. For most of the participants, this was their first time being a part of the minority, and they had to learn to adapt to new cultural norms. For example, for the New Englanders, it was a surprise how friendly people were in other countries. Sam described meeting people in Ghana, stating, “I guess I realized Ghanaians are very friendly people. I was surprised by how friendly everyone I met was.” For others, it was a chance to be a part of a new community, for example as Ruth noted about living with her host mother:

I definitely learned the importance of family and community because my host mom was so great and she was a little bit more traditional so she got worried when I stayed out late. For example, I went to a concert one time and she stayed up until I got back. So that was, that was a good experience.

Even though Ruth had been to Ghana before with her family, having the opportunity to live with a host mother gave her a new and different perspective of the culture.

Several of the participants described developing what they hope will be life-long friendships, typically with other volunteers. In fact, Sam recently returned from a trip to India
where he visited two friends that he made during his trip. Sam’s international medical service trip occurred more than five years ago, so the bond created has stood the test of time. Likewise, Jack “became good friends with another person who was working at the health center.” The two had a lot in common, and were able to take some time off to see the country. Jack’s friend “was a student attending a local college and the two of us just traveled on the buses, all around the country and just saw all sorts of different things.” Jack’s trip was six years ago, and he noted “I still keep in touch with a guy that I traveled with at the end of the trip. Yeah, we still keep in touch every so often.”

For some of the participants, the friends that they made were other volunteers. Some of these volunteers were from their university, some from the United States, and some were from other countries. Jennifer reflected that she “made friends there that had been my best friend since college.” Because many of these friends were from the same college, they were able to process their experiences and reverse culture shock together. Jennifer also had the opportunity to visit some of her non-American friends when she traveled during her gap year.

Several of the participants also befriended patients and care providers that they met during their rotations. Ruth, for example, came to count several of the midwives as friends by the end of her experience. After the women softened up to her, Ruth described them teasing her by having her call the patients into the wards:

A lot of times they would have me read off of different women's names in the morning and everybody there would all make fun of me because my pronunciation of their last names. So they, they liked making fun of me as like, it was like a lovable, like making fun of me for being this American Ghanian girl.
For Ruth, the relationships with the midwives were significant for her, because they were not easily developed. They represented not only new friendships, but also the approval of women whom she respected.

Tess described developing caring relationships with patients who she spent time with on the wards. For Tess it was a “very interesting experience” to get to know a group of people who she would otherwise never have met. She noted “very obviously you build the connections with these patients that are very different from you, from yourself.” Tess described one group of women who she connected with in the hospital:

There was this group of older women that I think kind of thought of themselves as my kind of South African parents. So every weekend when I would go and I wouldn't be back until Monday, they would tell me all the things they wanted me to do on the weekend. They told me you have to go for a hike, and you have to go to the beach, and you have to go to the market. And then on Monday they would ask me what I did and they would get a report, I think they liked to have that experience with me.

Because patients often spent more time hospitalized in South Africa than in the United States, Tess was able to provide the women with a connection with the world they were missing. She benefitted too, from a group of “mothers.” Tess also developed a bond with a younger patient, a girl around her age, which she described as one of her most significant memories:

There was a girl who was around my age and she was on her second valve replacement for her heart because she had rheumatic fever. She needed these certain blood tests in a certain level before they would let her be discharged. So every morning I would draw her blood and then we would get the result at noon. And every day we would have this
connection of waiting to see if that blood result would be where it needed to be, so she can leave and be done with the hospital, for at least a little bit.

For Tess, the bond that she developed with patients was meaningful. She noted “I think it was just connections with patients that I kind of remember, like very little, day to day, on the wards, were things that I'll keep with me forever.”

**Challenging Privilege**

All the participants come from families that are financially secure; they were all able to afford to travel and take time off from jobs and academics. Most have families who paid for their experience, though a few described funding their own trip; for example, Jennifer received a scholarship and Isabella spent her high school waitressing money. They all attended a large, urban, competitive, private university that allowed them the time to spend two to six months traveling in another country, something that’s not an option at all schools. All the participants except one were white.

For all the participants, living in a developing nation was eye opening in identifying previously unexplored privilege in their lives. They described noticing disparities in wealth, realizing the level of poverty in which some people live, while others have so much. The impact of apartheid was noted by participants who went to South Africa. They described the difficulty that many patients had in getting access to healthcare. Participants noted lack of infrastructure, with disruptions to roads and power grids.

**Disparities in Wealth.** Two of the participants, Ruth and Mabel, described realizing how much the exchange rate impacted their wealth. Ruth made a concerted effort to live like the local people in the city of Agona Swaju, the small city where she was volunteering. Ruth described her financial decisions, stating:
I became a little bit stingy with my money when I was in Ghana. I got so confused with the conversion rate because I really wanted to live like a local person. I hated the idea of like being somewhere and, because everything is compared to the dollar amount, to go crazy with money. So I really tried to budget all I could.

Mabel was in Argentina when the economy was “sort of collapsing,” which created an even greater disparity in exchange rate. Rather than taking advantage of her expanded wealth, Mabel decided to live more like the people of the countries she was visiting:

I think that I tried to live a lot more simply. Seeing both Argentina and Bolivia have just way way fewer resources and also the price differential was pretty astounding. It was kind of amazing how affordable things where for me when I was there, but it made me realize going the opposite direction, how unaffordable everything would be if you tried to travel to the United States as an Argentinian at that time. So I think that I felt a lot of guilt in the things that I had.

Guilt was a theme that was echoed by several participants as they discussed their experiences. For Jack, the disparities that he observed created “some existential crisis of sorts” upon returning to the United States. Jack described the biggest impact of his trip as reverse culture shock, seeing the wealth gap from rural Ghana to California’s Silicon Valley. Jack spent four months after his trip working for a tech company, where he was faced with the stark differences in lifestyle:

The transition from seeing people who were hungry and suffering from malaria, going to people who were treated so well. They had food stocked for us all the time, I barely even had to do my own grocery shopping they had so much food at the office. I just kept
thinking “why?” “Why aren't we helping these people?” Like we're wasting all this time doing stuff with the silly technology and it just seemed really self-centered.

Several participants described a change in how they viewed money and the ability to purchase luxury items during their time abroad. Realizing how little other people have helped them to understand their privilege and appreciate their good fortune. Returning to the United States, Finn described expressed gratitude, stating “learning what it's like to live everyday life in those cities, you come back a lot more grateful, a lot.”

Sam also described becoming more conscious about his actions after returning, noting that “coming back from a country like that where you're really hit in the face with like the disparities in wealth and education and everything makes you a little bit more conscious about what you're doing in your everyday life.” Some of the things that Sam paid attention to were “simple things” like trying not to be wasteful with plastic products. Others were much more complex, such as appreciating the quality of life in the United States, even while living on a small amount of money while “financing your life through student loans.”

**Apartheid.** Visitors to South Africa learned about the after effects of apartheid, and drew parallels to the United States. Jennifer described discovering more about apartheid, and “becoming more aware of all these different issues in the world that I had kind of been ignorant to before.” Jennifer folded this awareness of racial relations into the rest of her cultural and social learning during her experience. This new knowledge is now directing her career path towards population health.

Isabella had the strongest reflections on apartheid and its parallels with American politics. Living in South Africa allowed her to learn about the aftermath of apartheid, and how
the country is working to heal, while at the same time looking at commonalities with current racial relations in the United States. Isabella is passionate in her opinion about apartheid, stating:

It’s hard to say if it’s because of South Africa or if it’s because of our whole world shit show that’s going on in the United States but there was a time when racism was a huge problem and South Africa dealt with that to an extreme and is still dealing with how to sort of bridge what apartheid is saying and they have a lot of healing to do. And the United States kind of just, it’s kind of fucking up all over the place, in terms of race, and so I think watching how distinct countries deal with racism as an issue has definitely impacted how I have conversations with people about race and how I have conversations with people how social determinants of health determine medicine.

Isabella continues to keep up with South African politics to understand the evolution of change in the country, and consider parallels for the US.

**Access to Care.** Several participants spoke about differences that they noted in health care access and quality for the poor and wealthy, both within the country and between the country they visited and the United States. Tess reflected on the disparities that she saw in the healthcare setting in South Africa:

I worked on the public side of a hospital that also had a nice shiny, very up to date private side and I could see the difference in care just between a separation of one wall. So I think it definitely pushed me to wanting to be on the more public side of healthcare rather than the private side.

Hearing from patients about hardships, with stories such as, “it took them four hours to get to the hospital,” helped Tess to understand some of the details of difficulty in access to care that go beyond just an ability to pay. This experience is relevant to her in her training in the US, Tess
notes “having that kind of personal experience before I even came to medical school, I was so much more aware of the barriers” this helps her to work with patients who have neglected their health.

Isabella also had experiences where she was stunned by the poverty in South Africa. Shadowing in the clinic and seeing the incredible level of acuity of patients coming in for care was eye opening for Isabella, who described their living and health situations:

I mean, living in houses made of tires, made of cars, that kind of level of care where patients have both chronic and acute etiologies or pathologies that need to be taken care of all at once because they don’t really have access to longitudinal primary care or access to acute care.

Isabella realized the difficulty of caring for patients who can’t go for follow-up after a treatment and won’t be able to see a physician for preventative check-ups. She also noted how hard it was for families when someone was sick, since they had no safety net, there was no money if the primary earner wasn’t working. It was this knowledge that pushed her interests towards public health work.

Mabel described the challenges for physicians in their equipment. As a medical student in the United States, Mabel realized how old the technology was where she was volunteering, and how much the physicians she shadowed were capable of doing without many resources. As a medical student, she is conscious of waste in the healthcare setting:

What they used in the hospital was very antiquated and they just didn't have a lot of resources, so especially when I'm in the hospital, I'm a lot more mindful of waste. There's a tendency to use something once or briefly, or open it and not end up using it and then throw it away, and all of my experiences abroad and have showed that you should really
savor those resources because most other people don't have them. I've really thought about that a lot.

**Lack of Infrastructure.** In addition to lack of technology and resources in the hospital setting, participants noticed the lack of resources in the surrounding community. Ruth described doing research on what to expect before going, so that she would “know what I was getting into.” Small things like the internet cutting out weren’t a surprise or great hardship for her because she went to Ghana understanding that they were a possibility. Jennifer talked about being in one of the Townships of Capetown, witnessing the electricity cut out for the entire area, which was a greater surprise for her, and unsettling in a dangerous neighborhood.

Jack had one of the most extreme experiences, arriving in Ghana just after a plane accident where “a lot of people had died” and a fire at the airport where “multiple airplanes had caught on fire.” Jack needed to take a plane to get to the research station half way up the country, but “was not feeling really good about getting on that airplane.” Given the options, Jack decided that he would “just do it, just get on the plane.” However, he still remains stunned at the lack of oversight at the airports.

Finn also experienced difficulties with transportation, in his case he “almost couldn’t get home” due to a protest in Bolivia. On the day he was to catch his flight home, a group of people shut down the road, they “just block the roads and pile a bunch of boulders and stand there and don't let cars pass. So I couldn't take my bus back to the main city in order to catch my flight.” Finn wound up taking a small commercial airplane to get back to the capital and go around the road barrier, since there were no other roads. Even with this, Finn noted that he “never felt unsafe, but that could have just been because I was naïve.”
“Poverty Porn” and “White Savior Complexes”

Several of the participants spoke very directly about the concerns that they feel about wealthy white students going abroad with the intention of rescuing the poor from their oppression. Isabella offered the following description of “white savior complexes,” and her concerns about Americans who travel to developing nations to “fix” systemic problems:

Don’t go in there with the thought that you are giving the citizens of the country something that they will never get if you are not there. Don’t go in there, especially if you are Caucasian, with the belief that you can provide them something, based on the fact that you are from the United States, that they absolutely need. Go to be humble. These people live that experience every day … you cannot heal their dialogue, you can represent it and you can bring it back and explain it to your family and friends about the things that you’ve learned there, but don’t go in and expect that they are incredibly grateful to have you there. It’s a privilege to be there, not a right.

Isabella also spoke of her dislike of “poverty porn,” or Americans taking pictures with poor African, Asian or Latino children, that they show when they get home to demonstrate the good that they did on their trip. She described students who she saw on short-term trips who she felt missed the point of the experiences, “students come in and they are like, ‘oh, I’m going to take pictures with all the black babies and look at how poor they are’ and you have a giant white smile on your face.”

Ruth expressed similar sentiments, about seeing people taking pictures of the children in Ghana. Ruth’s recommendation is that undergraduate premedical students who view trips as an opportunity to “save the poor” consider remaining in the United States to serve. Ruth stated, “I dislike the narrative of a white male going into save all the African children. The people who
take pictures of all the kids on the street, those things upset me.” Ruth further clarified her dislike of “poverty porn”:

If you see a bunch of black children on the streets, when they're looking at you and smiling at you because you're the one of the few white men or white females that they've ever seen, think about what it means to pull out that camera and take a photo. Have you only been there for a few days? Do you actually understand where these people come from and what their community looks like and what life looks like for them, before you talk about how you saw these cute kids and how grateful you are for being in this place and how much you're contributing? You should ask yourself how much are you really contributing and how much are you taking away from the experience.

Mabel summarized the sentiments of the participants when she stated, “I would say if your intention is to go and help the poor and starving of the world and save them and kind of ride on your shining white horse it's not the right experience for you to do.” Instead, she urged maintaining a humble and opened attitude, realizing that the trip is a learning opportunity; a chance to meet new people, learn about the world, and about medicine.

Conclusions

All of the participants retain a heightened world view after their international medical service trip. Getting outside of their previous experiences helped participants to see new ideas and viewpoints, both in personal life and in healthcare expectations. Participants realized how privileged they were in their financial and health background. They came to understand the history of apartheid better, and saw similarities in United States culture. For some, living in a developing nation exposed them to aging road and infrastructure, forcing them to live experiences with lack of amenities that they had never considered. Several participants were
particularly bothered by other Americans who they felt didn’t display an attitude of humility, but rather came to volunteer with an attitude of superiority.

**Medical School Admission**

While only one participant described going on his trip as a way to enhance his medical school application, all of the participants felt their trips helped them with acceptance. Participants emphasized the impact of their trip differently, with some students like Tess stating “it 100% helped” and others like Finn feeling “everything is kind of nebulous and blurry and you never really know. But I did think it helped.” Tess served as a student interviewer at her medical school for a year, and was able to give an insider’s perspective from her school’s admissions committee. She described the trips as “one of the more helpful things you can see” on an application “because it gave me something to talk about that was very different than everyone else and it was something that the interviewer was genuinely curious” about.

All of the participants were asked if they felt that their trip helped them with admission to medical school. Two subthemes emerged. First, all of the participants described talking about their trip on their medical school application. In particular, they were a common theme for personal statements. Second, international medical service trips were a common topic of discussion at medical school interviews. Participants detailed the importance not only of including the trip on their application, but being able to articulate learning, as the most significant aspect to admissions committees.

**Application**

All the participants described including their international medical service trip as a part of their application. Several crafted personal statements around their experiences and learning, including Finn who described it as “the foundation for my personal statement,” Ruth who noted
“it’s what I wrote my personal statement on,” Isabella who stated “my personal statement cited my trip to South Africa,” and Jennifer who used it as “the topic of all my essays” for her application. Ruth further detailed her inclusion of her trip in her application, stating “I think everybody saw that experience as very highlighted and intentional within my application, I wanted them to know it was a part of me and it was important to me.” Mabel noted the importance of “cultural competencies” to admissions committees, and described how her trip gave her “a big leg up” over other applicants. Jack described the added impact of his unique academic background, stating, “I don't think there are that many students who did computer science and some kind of global health things. So I think just the weird combination of what I did at Northeastern probably helped me stand out on the application.”

**Interviews**

All of the participants discussed their trips during medical school interviews. Jennifer described frequent questions, stating, “I don't think I had a single interview where it didn't come up. It's a good conversation starter.” Ruth also noted “I think every place that I interviewed at they asked me about it,” as did Sam who stated, “you get asked about it for sure if it's on there.” Jack described being asked about it at specific schools that he’s “just heard from people… really favor students who had some kind of international experience,” affirming “yeah, I remember that happening on the interview trail.”

Participants described their trips as adding to interviews in multiple ways. Tess found her trip to be a good way to move an interview away from a traditional question and answer format to a more conversational approach, “It gave me something to talk about that was very different than everyone else, and it was something that the interviewer was genuinely curious about.”
For her, this made the conversation more sincere, since the interviewer was “genuinely curious” about her trip and experience in South Africa.

Mabel felt that interviewers used her description of her experience to test her moral compass, gaining a sense of how she approached service. Mabel described her conversations:

I think they use it sort of as a test because I know a lot of other students that can go a different direction where it becomes sort of this savior complex, where the whole is about how I went down there and saved all these lives and had the biggest impact with these people that were just destitute and needed me, and that I think it's the wrong way to do a personal statement. I think that interviewers probe for that and want to see if that's your attitude about the whole thing or if you took away a different experience.

For Mabel, who had a more humble approach to her presentation of her experience, being able to talk about her international medical service trip to a sometimes skeptical audience enhanced her application. It gave her the opportunity to demonstrate characteristics necessary for physicians, such as humility, self-confidence and resilience.

Sam found discussion of his international medical service trip to be a good segue to discussion of his interest in medicine as a service profession. Sam was able to steer the conversation particularly towards the service aspects of his experience. For Sam, this was a way to set his application apart:

It’s more than just saying ‘I think service is something that I'd like in my future.’ I'm sure everyone goes into interviews thinking volunteer work and service is something that they should be talking about. But I actually went and did a service trip for four months, so they like to see things like that.
Sam also felt that how he discussed his experience impacted the way admissions committees viewed the experience on his application. Sam’s experience in India was mostly observational, yet he was able to discuss it from a perspective of a growth mindset, emphasizing the importance of service in his life. Sam also felt that the trip demonstrated that he is a person who follows his passions, doing things that interest him, rather than just thinking about them. Sam noted “I think it definitely helps that I was able to do that for four months on my own being that, I have this interest and I pursued it.” This enabled him to portray himself as a go-getter to the medical schools.

Finn emphasized that just completing an international medical service trip wasn’t enough to help his application to medical school. He stated, “it would be foolish to think that taking a global health trip is some gold star on your application. I don't necessarily think that, for me it was like, wow, this was an incredible thing, you know, he's a great person because of this. We should admit him.” Instead, he emphasized the importance of presenting the impact of the trip to the admissions committees. Finn described discussing his trip in his interview noting that “it was my ability to say what I learned from that trip and how that contributes to what I want in medicine and why I want to go into medicine and how it helped me grow as a person.” He felt that this ability helped with his acceptance.

Conclusion

All the participants felt that their international medical service trip enhanced their application to medical school. All of them discussed some aspect of their trip in their application, many making it a part of their personal statement. All of them talked about their trips during interviews. Participants felt that the trips added an element of interest to their candidacy, particularly because they were able to invest a longer period of time in their experience. While
going on a trip was noteworthy, participants stressed that the greater importance was reflection and expression of learning and growth from their experience.
The biggest thing I gained was confidence. I was in this foreign country by myself, not really knowing the language, and it was great for me because I was forced to be outgoing and show initiative and it really built my confidence that I could go and do this. And it also gave confidence with being very uncomfortable and I think that that helps me relate to people, especially in the patient populations that I sometimes see where there's a language barrier, a cultural barrier or any sort of barrier. I think I can relate to people better because I know what it's like to be on the other side of that barrier and I know what it's like to not speak the language and it doesn't mean that you're stupid, it means that you just don't understand.

- Mabel, first year medical student

Chapter 5: Discussion

Mabel still thinks back to the physician’s delivery of the news, “your baby is dead. There’s nothing you can do.” In preparation for her four months volunteering in Argentina and Bolivia, Mabel took a Certified Nurse’s Aide (CNA) course where she learned basic patient care skills: blood pressure, pulse, toileting, combing hair. She practiced her Spanish with the janitors at her school in the US. None of this prepared Mabel for the evening when she sat with a seventeen-year-old as she delivered her stillborn baby. Like many premedical students, Mabel believed that her trip abroad would teach her to care for patients, and would give her clinical skills that might impress an admissions committee. Sitting beside the young girl as she went through her painful labor, Mabel felt helpless. She watched the nurses crying as the small purple baby came out.
Chickering and Ehrmann emphasized the importance of experience in college student development, noting “students do not learn much just sitting in classes listening to teachers, memorizing prepackaged assignments, and spitting out answers. They must talk about what they are learning, write reflectively about it, relate it to past experiences, and apply it to their daily lives” (KZOI Innovations, 2015). Class discussion about empathy and how to handle difficult situations are important, but real world experience is transformative (Bringle & Hatcher, 1999). Today, Mabel takes the time to slow down in the clinic to talk to patients, learning ways to deliver hard news clearly and with compassion. Mabel’s experiences have given her the confidence to know that she can work with a wide range of patients from a variety of backgrounds; she has learned that “the way that you tell people what’s going to happen and how you behave can have a really huge impact on their care.” Like Mabel, each participant interviewed for this study related at least one experience that remains important today.

This study suggests that participating in an international medical service trip as an undergraduate premedical student can have an important impact on development and medical school admission. This impact may then direct the course of participant’s careers towards a more service-oriented path as a physician, working more with underserved populations, in global and public health, and in more primary care settings. Interviews revealed four areas of sustained impact including understanding and choosing medicine, personal growth, global perspective, and medical school admission.

Analysis of the Questions

How do international medical service trips impact the identity development of premedical students?
Choosing Medicine. Prior research studies on impact of international medical service trips have explored ethics (Evert, 2015), patient outcomes (Green, Green, Scandlyn, & Kestler, 2009), quality of care (Maki, Qualls, White, Kleefield, & Crone, 2008) and sustainability (Suchdev et al., 2007). Researchers and advisors have expressed concern about the ethics of student participation. Some professionals believe that undergraduates shouldn’t travel to developing countries for medical service at all due to ethical concerns. Others feel that trips can have positive outcomes for both host and volunteer (Lasker, 2016). This study examined a different aspect, the long-term impacts on volunteers.

Trips had an impact on career choice for all the participants, though to differing degrees. Ruth, Jennifer, Tess and Mabel went on their international medical service trip to explore medicine as a career. All four were unsure if being a physician was the right fit when they left the United States and all of them decided that they wanted to be a doctor during their trip. Sam, Jack, Finn and Isabella already knew that they wanted to be doctors; they wanted greater insight into the profession. All the participants described insights and long-term career impacts that resulted from their experience.

Jack realized how difficult it would be to work in global health and have a family and “normal” lifestyle in the United States. He decided against global health as a specialty. Isabella learned to put words to the social justice issues that had upset her for years. When she returned to the United States she began learning about public health and health disparities. She founded a club on campus that focused on public health and spent two years between graduation and medical school working in public health research at the CDC. Ruth became more interested in preventative medicine and shifted her focus from infectious disease to pediatric psychiatry. She spent a year between graduation and medical school working on clinical research studies in
adolescent violence prevention. Mabel currently volunteers at a free clinic with a large Spanish-speaking population. Tess’s experience working at Groote Schuur hospital, seeing the difference between the public and private sides of the hospital, pushed her towards working with underserved populations. She decided that she would like to work with low resource/high needs patients; Tess is applying for residencies in urban hospitals in emergency medicine. Jennifer continued to travel in developing nations. Wherever she went, she noticed the same public health issues. Travel led Jennifer to change the focus of her PhD from molecular science to population health.

Data from the AAMC predicts a physician shortage of up to 104,900 doctors by 2030. Underserved areas are already feeling the lack of physicians. Lack of primary care and long wait times are a reality of life for many rural, urban poor and minority patients (Kirch & Petelle, 2017). Although these students represent a small sample of future physicians, the career paths that they are following are significant. Tess is applying for residencies in emergency medicine in underserved areas because she enjoys working with high needs, low resources patients. Jennifer shifted the focus of her research, working on an MD/PhD that will enable her to develop ways to improve patient outcomes. Isabella plans to continue her public health efforts while working as an emergency room physician.

**Personal Growth.** Researchers have found that students who participate in study abroad programs tend to show increases in self-awareness, intercultural knowledge, interest in diverse relationships (Engberg, 2013), interpersonal skills, resilience, and self-confidence (Hadis, 2005). This study indicates that these same developmental benefits can be gained during international medical service trips. Mabel, Ruth, Jennifer and Tess described an increase in self-confidence based on their ability to handle difficult situations. Jack, Finn and Isabella talked about being
more flexible, going with the flow, and embracing whatever came their way. Participants knew that they could have left when things got hard, but made the choice to stay. This helped them to define themselves as resilient, a self-definition that they held onto in medical school.

Studies have also shown that culture shock and reverse culture shock experienced during college bring levels of cognitive dissonance necessary for changing beliefs, allowing students to stretch their comfort zones and become confident in a new culture (Ybarra, 1997). Most of the participants described feeling uncomfortable during their trip, either because they were alone, were in unfamiliar settings, or were unsure how to act in a specific setting. Though they found different methods to handle their emotions, all the participants eventually found strategies that were helpful. For example, Sam began journaling, Ruth worked extra hard to be ingratiating, Mabel talked to the physicians during down time, and Jennifer made friends with peers. These skills have become effective for working through difficult times in medical school.

International service has been shown to increase service mindedness and interest in social justice (Hamby & Brinberg, 2016). These outcomes were noted as a result of international medical service as well. Participants talked about gaining clarity of values during their experience. All the participants gained greater sense of self; describing themselves as people who are opened to different cultures and ways of making meaning. All described times when they realized their position of privilege. Finn found an increased drive towards service. Isabella, Tess and Jennifer expressed discomfort over current racial tensions in the United States based on learning from their time in South Africa. For most of the participants, social determinants of health, public health, and preventative medicine became important issues. Jack, Isabella, and Finn specifically mentioned wanting to work with Doctors Without Borders or a similar organization in the future.
Chickering describes managing emotions, moving through autonomy towards interdependence, and developing integrity as important developmental milestones of young adulthood (A. W. Chickering & Reisser, 1993). To be a successful physician, it’s essential to have well-developed emotional, interpersonal and ethical skills (Lambe & Bristow, 2010). This study suggests that participants were able to grow critical developmental goals that will help them to be successful doctors in the future. Participants became more mature, self-confident, and self-reliant during their trips. These characteristics are now helping them be successful medical students.

**Global Perspective.** Studies have found that international experiences not only enhance development of a world view, they also lead to gains in cognition and interpersonal skills (Engberg & Davidson, 2012). Research on study abroad finds that students return from their experiences with greater intercultural knowledge, more interest in diverse relationships, and increased comfort with ambiguity (Engberg, 2013). International service increases participant’s desire to volunteer in the future, developing a service orientation (Tyran, 2017). Participants described many of these same effects from their international medical service trips.

All the participants described developing friendships with people from their host country and learning about their ways of thinking. Several found ways that they preferred their host country culture over American culture, for example Isabella and Jack described people as friendlier and Sam enjoyed their approach to wellness, meditation and spirituality. Ruth found herself becoming a part of a more traditional family, and to her surprise enjoyed the experience. All the participants enjoyed being able to talk to patients in the wards, and Mabel and Tess described highly impactful patient stories that changed how they thought about medicine.
Volunteering in resource-poor areas allowed participants to understand the privilege in their own lives. Tess and Mabel identified feelings of guilt over their privilege, and tried to live more simply as a result. This effort to be mindful of resources remains today; Tess and Sam described being conscious about how many resources they use in the hospital, realizing that doctors in other countries don’t have access. Several participants took their understanding of privilege to the next level, realizing how their presence impacted the people of the host country. Finn, Isabella, Ruth and Mabel spoke passionately about the need for participants on international medical service trips to cultivate an attitude of humility, realizing that they were there to learn, not to provide a necessary service. These participants came to the realization that just because they are wealthy, educated Americans, that doesn’t mean that they can’t learn from those with less privilege. They also realized the importance of not exploiting others, particularly not taking pictures of the children. This understanding impacted participants both at a personal and professional level, helping them to be humbler as people and physicians.

Sam, Finn and Jennifer spoke about the physicians and other healthcare workers who they connected with while abroad with great respect. These doctors shaped their initial impressions of who a doctor should be, and how they should do their work. Sam spent a week living in the Himalayas at a clinic, and was impressed by the depth of knowledge and resourcefulness of the local physician. Finn went on house calls with a doctor in Bolivia, and felt the depth of his sacrifice, as he closed his clinic for the afternoon to care for a patient who couldn’t afford to come to see him. Jennifer found her coworkers to be “good-hearted and inspiring,” a fact that added in her decision to do medical training instead of just research. Having these impactful experiences as their first immersive medical experiences impacted the
type of physician that participants wanted to be, pushing them towards careers with underserved and high-needs populations.

**How do participants feel trips help them to be successful applicants to medical school?**

**Medical School Admission.** Studies show that medical school applicants must demonstrate a clear understanding of their interest in medicine. They must also show key characteristics including a service orientation and cultural competence (Monroe, A., Samuelson, W., Dunleavy, D., Dowd, K., Quinn, 2013). Applicants should be able to discuss experiences in a clinical setting both on their application and in interviews, with a realistic understanding of the life of a doctor (Group on Student Affairs Committee on Admissions, 2016). Given the shortage of physicians who are interested in caring for the poor and underserved, schools like to see a history of commitment to service as well (Owen et al., 2002). A commitment to diversity and caring for patients from a wide range of backgrounds is critical in our increasing multiracial, multiethnic country (Hayward & Li, 2011).

All the participants felt that their trips helped them to get into medical school, but at the same time cautioned that students shouldn’t participate just to help their acceptance. Finn, Tess and Mabel noted that approaching a trip in the wrong way, with a lack of humility or engaging inappropriately in clinical activities, could prevent acceptance into medical school. All the participants discussed their international medical service on their applications and in their interviews. Most described their trips as being a unique conversation starter, something that is different from what all the other applicants have done. Mabel felt that it served as a litmus test of her moral compass; interviewers would ask about the trip to assess if she had engaged in unethical clinical practice. Sam and Finn felt that what they learned on their trips helped them to
be more successful applicants, rather than the fact that they went. Isabella felt that the work that she did at the CDC after her trip helped with her acceptance.

Studies have found that it is necessary for applicants to clearly express their interest in medicine on their application and in interviews (Peskun et al., 2007). The immersive nature of these trips allowed student the time to learn about medicine and their interest in the profession. This understanding was reflected in applications and discussed repeatedly in interviews. In the end, it’s hard to know what leads to acceptance, but in the opinions of all eight of the participants, their trip was an asset to their application.

**Recommendations**

Higher education professionals can help students plan and participate in international medical service trips in an ethical manner, reframing the conversation to help students understand how to get the most from their trips. By helping students to understand the educational and developmental benefits of trips, faculty and advisors can assist students in planning and setting expectations, setting learning goals, and realizing the importance of their trip as a point of service in a long career of service. Following are recommendations for faculty and staff who work with undergraduate premedical students in planning their trips abroad.

**Self-Education**

Given the number of students who participate in international medical service trips, most schools will have some students interested in these programs. Faculty and advisors who work with premed students can play a big role in influencing the narrative of trips if they have accurate and accessible information for students. Resources are available for faculty and advisors who work with premedical students who may participate in international medical service trips. The National Association of Advisors for the Health Professions (NAAHP) publishes tools on best
practices for advising. The University of Minnesota’s Global Ambassador’s for Patient Safety (GAPS) resource center has information available for advisors and students regarding trips; educating students, creating ethical partnerships, choosing the right program and ensuring placement quality are detailed (University of Minnesota, n.d.).

**Program Choice**

As Finn said, “choose carefully.” Arguably, the most important step in planning a trip is selecting an organizational partner. Helping students to find a high-quality program is important. Students typically pay a specialized program to set up their experience. Programs range in quality and mission. Some organizations work in sustainable collaboration with the host country, ensuring that a percent of the program fee supports local needs. Other companies are for-profits, much like a travel agency (Evert, 2015). In 2010, the Working Group on Ethics Guidelines for Global Health Training (WEIGHT) developed guidelines for best practices in the field. Johns Hopkins University Berman Institute of Bioethics and Stanford University’s Center for Global Health have information and case studies about these guidelines that can be accessed online (Berry, Sugarman, DeCamp, Richardson, & Rodriguez, n.d.). By promoting the guidelines as directed by WEIGHT, higher education professionals can help students participate in a high quality experience (Crump et al., 2010).

**Pre-departure Orientation**

Pre-departure orientation before travel is essential for students. All students should have a pre-departure orientation from their sponsoring program before they leave. Orientations prepare students to understand their role, explain ethical issues, and offer advice on challenges they may face. Students can also utilize the University of Minnesota’s GAPS online workshop before leaving. This workshop gives a thorough overview of trip planning, ethics, and goals (University
Orientations prepare students for culture shock and give strategies for self-care in a new environment. A good orientation talks about white savior complexes and the real value of international medical service (Child Family Health International, 2018). Higher education professionals can teach students about transferable skills that they can learn while abroad, helping participants to shape their experience in terms of attributes and qualities, rather than clinical skills (Dalgleish et al., 2007).

**Goal Setting and Reflection**

Experiential learning is more effective if learners engage in reflection before, during and after the experience. Prior to departure, higher education professionals can help students set intentional learning goals that focus on career development, relationship building, and personal development. Goal setting facilitates mindful participation and direction of energy in practice while abroad (Locke & Latham, 2002). During the trip, reflective learning allows students to capture their experiences and feelings. Faculty and advisors should encourage students to use journals, blogs, and interpersonal interactions to process daily events and feelings. After the trip, it’s important to have a way to process the experience, including understanding reverse culture shock. Bringing students who have had similar experiences together for a post-trip session allows reflection on learning (Gardner, P., Steglitz, I., & Gross, 2008).

**Facilitating Development of a Service Orientation**

Helping premedical students to embrace the service aspect of medicine is an important goal for higher education professionals. It’s important to encourage undergraduates to engage in service while they are opened to the experience. Though many go into medicine with altruistic intentions, financial realities dictate physician specialty, population, and interest in public health. In 2016, the average debt load of medical school graduates with debt was $189,165 (Association
of American Medical Colleges, 2016a). Doctors in the highest earning specialties of medicine made nearly three times as much as a doctor in primary care. Over the course of a career, this adds up to about a 3.5 million dollar pay differential (Phillips et al., 2009). Physicians need to consider their financial and life style goals in choosing their specialty and place of employment. For a physician to choose to work with the underserved or in an area of greater need, they must have a deep commitment to service over money.

Studies have found that undergraduates with a well-established commitment to service are more likely to continue to offer their time as a practicing physician than someone who has no history of volunteerism (Owen et al., 2002). The eight participants in this study have all integrated their international medical service experiences into their career paths. As Ruth described, “it [is] a part of me and it [is] important to me.” All describe service as an important part of their commitment to medicine and of their identity. They believe they have the power to create positive change in society. They see their trip as a point of service within their career of service. Higher education professionals must encourage their students to find service experiences that lead them to similar beliefs.

Limitations

This study consisted of interviews with seven medical students and one recent medical school graduate, all of whom attended the same college for their undergraduate career. The school is a large, selective, urban institution in New England. These students may not be representative of all students who participate in international medical service trips. In addition, all participants went on a trip as a part of their undergraduate experience because their college enables students to alternate in-class learning with experiential learning. This enabled longer
trips with no academic consequences for being away from classes for up to six months. It might be difficult to replicate trips of the same duration at other schools.

This study specifically looked at individuals who went on an international medical service trip as an undergraduate and are now medical students. It didn’t look at anyone who decided not to apply to medical school after the trip, or at anyone who did apply and wasn’t accepted. This may have excluded undergraduates who engaged in unethical practice in the clinical setting, didn’t develop the same positive relationships, and didn’t have the same developmental growth. The outcomes and learning of these distinct groups of individuals may have been quite different than that of the medical students, thus the results of studying their experiences could be completely different.

**Areas for Future Study**

This study intentionally chose participants based on a passage of time between participation in an international medical service trip and the interview. This allowed participants to integrate learning into their lives. Participants spoke of residency plans, goals to travel more, and interests in working with underserved populations. It would be interesting to interview physicians who have been practicing for many years to see how they incorporated learning from their trips into their careers. Would they still cite their trip as an undergraduate as a formative experience? Would physicians who are midcareer, with associated life-responsibilities and debt, still choose to prioritize service and the poor?

This study was a small, qualitative study of medical students who attended one undergraduate institution. Data gathered indicates that, for these students, participation in an international medical service trip may have impacted their development and acceptance to medical school. Given these positive results, it would be interesting to continue this research
with a larger, quantitative study of a wider sample to see if the same is true of other medical students who have participated in trips.
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Appendices

Appendix A: Initial Email

Hello,

I am writing to see if you would be willing to be interviewed for the research study I’m doing for my Doctoral Dissertation at Northeastern University. My study is looking at the impact of international medical service trips on participants. I’m interested in understanding how current medical students believe trips they took as an undergraduate may have impacted their application to medical school, career goals, and development (i.e. ways of learning, understanding self, formation of goals, interpersonal and intrapersonal growth).

Knowledge gained from the study would help future Northeastern undergraduates who plan to participate in similar trips. Your participation is voluntary.

The study would involve one approximately 45-minute semi-structured interview conducted via Go To Meeting, a secure online platform. All information that you share will remain confidential.

If you are interested in finding out more information, or participating, please contact me via email at seltzer.cy@husky.neu.edu or by phone at 617-501-6697.

I hope medical school is going well! I look forward to hearing from you.

Best, Cynthia
Appendix B: Follow-up Email

Hello,
Just circling back on this because I realize the last time I emailed you was probably bad timing. Hopefully you've finished first year now, and have a little time off! I hope things went well. If you do have a little free time, I would love to talk to you about your international service trip.
Best, Cynthia
Appendix C: Unsigned Consent

TEMPLATE 3  UNSIGNED CONSENT DOCUMENT

In certain instances, an IRB may waive the requirement for the investigator to obtain a signed consent form for some or all subjects. In cases in which the documentation requirement is waived, the IRB may require the investigator to provide subjects with a written statement regarding the research.

Only the IRB can waive or modify the consent process. Researchers are not authorized to make this decision. When a signed informed consent is not required, this consent form may be given to participants to keep. Please modify the following information as necessary.

Northeastern University College of Professional Studies, Doctor of Education
Name of Investigator(s): Principal Investigator, Lynda Beltz, Student Researcher, Cynthia Seltzer
Title of Project: Outside the Bubble: Understanding how international medical service impacts premedical students

Request to Participate in Research
We would like to invite you to take part in a research project. The purpose of this research is to understand how international medical service trips undertaken by undergraduate premedical students effect their application to medical school, career goals, and identity development (i.e. ways of learning, understanding self, formation of goals, interpersonal and intrapersonal growth).

You must be at least 18 years old to be in this research project.

The study will take place via a secure online platform, Go To Meeting and will take about 45 minutes. If you decide to take part in this study, we will ask you to answer a series of questions about your international medical service trip and how you feel it impacted your subsequent development, career choices, and your medical school application.

There are no foreseeable risks or discomforts to you for taking part in this study.

There are no direct benefits to you for participating in the study. However, your answers may help us to learn more about long-term impact of international medical service trips. This knowledge may enable future participants to set expectations for programs before departure, participate ethically during their programs, and reflect upon learning better on their medical school application.

Your part in this study will be handled in a confidential manner. Only the researchers will know that you participated in this study. Any reports or publications based on this research will use only group data and will not identify you or any individual as being of this project.

The decision to participate in this research project is up to you. You do not have to participate and you can refuse to answer any question. Even if you begin the study, you may withdraw at any time.

You will not be paid for your participation in this study.

If you have any questions about this study, please feel free to call Cynthia Seltzer (617-501-6697), the person mainly responsible for the research. You can also contact Lynda Beltz (724-961-8663), the Principal Investigator.

If you have any questions about your rights in this research, you may contact Nan C. Regina, Director, Human Subject Research Protection, 490 Renaissance Park, Northeastern University, Boston, MA 02115. Tel: 617.373.4588, Email: n.regina@neu.edu. You may call anonymously if you wish.

You may keep this form for yourself.

Thank you.

Cynthia Seltzer
Appendix D: Interview Protocol

**OPENING REMARKS:**

Introduction: Thank you for your participation in my research. I’m studying the impact that international medical service trips have on participants as a part of my doctoral program at Northeastern University. Your response to the following questions are an integral component of my research. Before we begin our conversation, I want to reiterate that your participation is voluntary, we can stop this conversation at any time if you would prefer not to continue, and all information that you share will remain completely confidential and anonymous. My study will assign you a pseudonym and any information that might be identifiable will not be included in the thesis. I am requesting permission to record this interview session. After the interview, I will transcribe our conversation and will share this transcript via email to ensure that your responses are accurately represented. If you feel that any information is unclear at that time, I will be able to revise the transcript. If all of this is acceptable, can I turn on the recording and may we begin the interview? (Wait for confirmation.)

<table>
<thead>
<tr>
<th>Identity and Career Development from International Medical Service</th>
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<tbody>
<tr>
<td>1. Please tell me about the trip that you went on, including when you participated, where you went, how long you were there.</td>
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<tr>
<td>2. How did you learn about the specific program, and why did you choose it?</td>
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<tr>
<td>3. What were your expectations before the trip?</td>
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<tr>
<td>4. Who did you serve and in what ways? What do you feel were your most significant contributions?</td>
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<tr>
<td>5. What did you hope to gain from your service trip? What motivated you to participate?</td>
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<tr>
<td>6. What are some of the stories about your trip that you find yourself telling people about?</td>
</tr>
<tr>
<td>7. Did you have any difficult encounters or events on your trip? Are you willing to tell me about them?</td>
</tr>
<tr>
<td>8. Do you feel the trip changed you as a person? If so, how? Was this how you were expecting it to impact you?</td>
</tr>
<tr>
<td>9. Do you feel the trip changed your career goals? If so, how? Was this how you were expecting it to impact you?</td>
</tr>
<tr>
<td>10. Did the trip change how you perceive your host country? In what ways?</td>
</tr>
<tr>
<td>11. What were your relationships with the people who worked and lived in the country you traveled to like? Did you feel comfortable with these relationships? Why or why not?</td>
</tr>
<tr>
<td>12. Please tell me about any changes that you made in your life/activities immediately after returning from your trip. How have you sustained these changes?</td>
</tr>
<tr>
<td>13. Did your relationships with family and friends at home change after your trip? In what ways?</td>
</tr>
<tr>
<td>14. Have you done any additional global travel? Has any of it been service related?</td>
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<tr>
<td>15. Reflecting back on your trip, can you tell me about any instances that you have concerns about from an ethical perspective? What did you learn from this/these situation(s)?</td>
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<tr>
<td>16. In what ways do you feel the trip helped and/or hurt your medical school application?</td>
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<tr>
<td>17. In what ways do you plan to integrate global health into your career as a physician?</td>
</tr>
<tr>
<td>18. What field of medicine do you want to enter? Do you feel that your trip impacted this career choice?</td>
</tr>
<tr>
<td>19. Do you feel that your experience increased your cultural competence? Why or why not?</td>
</tr>
<tr>
<td>20. Of the experiences that you had in college, rate your international medical service trip in terms of impact on you, on a scale of 1-10, with 10 being most significant. Why do you assign it that number?</td>
</tr>
</tbody>
</table>
21. What would you advise a college student who is considering doing a trip that’s similar to the one that you took?

**CLOSING QUESTION (optional)**

None.

**ENDING REMARKS to your Volunteer participant:**

Thank you for your participation and open conversation in this interview. Over the next couple of weeks I will transcribe our conversation and send you a copy of the transcript. If, upon reading the transcript, you feel there are clarifications that you would like to make, I will revise the transcript.